

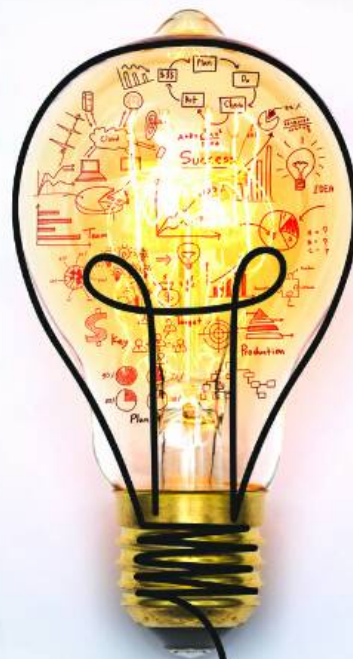


NIDA International Business Conference

2017



March 4, 2017



Innovative Management

Bridging Theory and Practice

Conference Proceedings

**PROCEEDINGS OF NIDA
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INNOVATIVE MANAGEMENT:
BRIDGING THEORY
AND PRACTICE**

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FOREWORD

Dean's Message



Thank you for participating in the second NIDA International Business Conference 2017.

This conference was an opportune time to foster the development and cooperation between NIDA Business School and scholars, researchers, leaders and students from Thailand and around the world.

NIDA Business School has developed over the years to enlarge its purpose to include the region, in light of AEC and globalization. It was AACSB accredited in 2013 and now has a core faculty comprised of greater than 95% having Doctorate degrees; with all faculty members having obtained their degrees from AACSB accredited schools. Through its international network development, the school has

been able to create links for the cross flow of knowledge to support its mission.

For this, we thank our entire network of partners for our success. All basic elements of our school: facilities, alumni, students, academic and business networks, curriculum, accreditation make us proud to be one of the leading business schools in Thailand.



Dean, NIDA Business School

Chair's Message



Thank you for participating in the second NIDA International Business Conference 2017, in Bangkok, Thailand. This conference bore the theme of Innovative Management: Bridging Theory and Practice, which had gained increased significance in light of globalization.

It was a goal of the conference to have an impact on becoming better organizations with greater efficiency and to be ready for AEC and globalization. By creating and assembling the practical knowledge or contributing to the body of research knowledge, e.g. enhancing management efficiency, professionalizing businesses and business sectors/clusters, stimulating innovation, creating the frameworks for efficient flow of data for decisions, attracting investments, or

through studies of clusters, decision makers are in a better position to make sustainable decisions leading to the long term potential of their organizations, and for business sector development and sustainability.

The conference served as a get-together where leading academics, business leaders, practitioners and students could share their ideas and experiences to help each other in their careers and businesses. On behalf of the conference committee, we would like to thank all of you for your support and efforts.



Danuvasin Charoen, PhD, PMP
Conference Chair
Associate Dean, NIDA Business School

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**COMMUNICATION IN EDUCATIONAL INSTITUTION:
CAN WE IMPLEMENT PAPERLESS COMMUNICATION?
(A STUDY AT TANRI ABENG UNIVERSITY)**

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ABSTRACT

In this study, researchers wanted to determine the application of communication in Tanri Abeng University (TAU). Researchers used concepts related to organizational communication, flow of information within the organization, even distribution of information, also internal communications. The research approach is qualitative descriptive. To obtain primary data, researchers use interviewing techniques and observation. For secondary data, researchers used the documentation and literature study. The results obtained are in TAU information presented primarily for downward communication, upward communication, and horizontal communication are things that are associated with learning activities and individuals. For cross-channel communication, is more individually and on employment. For the medium of communication is e-mail, instant messenger, phone, and face-to-face communication.

Keywords: organizational communication, information flows, paperless communication, educational institution.

INTRODUCTION

Communication within the organization is important because it will help the organization carry out its activities. Multiple communication channels are implemented so that the communication system can run well. For example, all members of the organization get the same information and evenly and certainly a good understanding of the content of the message delivered by source of information. That is, the effective communication needs to be achieved.

Imagine, if an organization runs the communications system ineffectively. It will arise many problems in the organization. For example, some members of the organization feel to be apart of the organization because they do not get the information from the authority providing such information. Or, supposing organizations members find it difficult to express an opinion or to get an explanation from his superiors because not many communication channels can be applied in the organization. There will be a lot of communication hampered in the organization.

To obtain effective communication requires appropriate communication channels. Whether using paperless or paper-based. Of course, depends on the contents of the message.

Then, how information flows occur in educational institutions? What medium of information that information is conveyed? This study focuses on the flow of information that occurred in educational institutions, Tanri Abeng University. Educational institution is a unique in its organization. Especially if it is associated with the public. Not only related to internal public involved in the organization itself, i.e. the faculty, management, and employees that support running the organization, but also students, which may include internal public, but can also be considered as an external public who receive services from the educational institution. Therefore, the problem may be even more complex.

Tanri Abeng University merupakan universitas yang terbilang baru yang terletak di Jakarta, Indonesia. Sebagai institusi pendidikan yang baru, tentu banyak hal yang dapat dipelajari dan juga ditemui terkait dengan arus informasi yang terjadi di dalamnya. Dalam penelitian ini, peneliti ingin mengetahui penerapan komunikasi dalam institusi pendidikan di Tanri Abeng University, Jakarta, Indonesia.

Tanri Abeng University is a relatively new university located in Jakarta, Indonesia. As a new educational institution, many things to be learned and also encountered relating to information flows that occur in it. In this study, researchers wanted to determine the application of communication in educational institutions in Tanri Abeng University, Jakarta, Indonesia.

LITERATURE REVIEW

Communication Organization

There are some perceptions about organizational communication of some experts:

(1) Redding and Saborn Perception

Redding and Saborn say that communication organization is sending and receiving information in complex organizations. Include internal communication, human relations, downward communication, upward communication, horizontal communication, communication and speaking, listening, writing skills and communication evaluation program.

(2) Zelko and Dance Perception

Zelko and Dance said that the organization's communication is an interdependent system that includes internal communications and external communications. Then along Lesikar, they add another dimension of organizational communication is the dimension of personal communication between members of the organization in the form of an informal exchange of information and the feeling among members of the organization.

From the above, it can be concluded that organizational communication is a process that happens in the organization, and in there the communication process that occurs is divided into four aspects: downward communication, upward communication, horizontal communication, and cross-channel communications.

Information Flow within Organization

Wayne Pace and Faules (2001) found in the organization, there are four types of information flow within the organization, namely: downward communication, upward communication, horizontal communication, and cross-channel communications

1. Downward Communication. Communications that shows the flow of messages flowing from leaders to subordinates
2. Upward Communication. Is the message that flows from subordinates to superiors or from the lower level to above it.
3. Horizontal Communication. Is the exchange of messages between people at the same level of authority within the organization. Messages flowing by function within the organization are directed horizontally.
4. Cross-Channel Communications. This occurs when employees communicate with each other regardless of their position in the organization, then directing the flow of information is an informal and personal.

Communication Effectiveness

Communication Effectiveness, which represents the achievement of an intended outcome of communication, is an important factor that influences trust, and relationship commitment (Park, Lee, Lee, & Truex, 2012). Communication behaviors associated with the sharing and exchange of information improve organizational effectiveness (Tzafirir, Harel, Baruch, & Dolan, 2004).

Massey and Kyriazis (2007) measured three underlying dimensions of CE: communication frequency, bi-directional communication, and communication quality. Communication frequency referred to the number of communication events per unit time; bi-directional communication represented the degree to which a two-way communication process occurred between IT experts and clients; and communication quality was defined as the extent to which appropriate and useful information was provided through communication. Each dimension plays its own role in making effective communication. As communication frequency increases within an organization, more extensive

sharing of ideas occurs between the business and IT departments, and their capabilities are combined accordingly to promote business efficiency (Reich & Benbasat, 2000). Bi-directional communication allows information to be shared on a mutual, give-and-take basis during joint problem-solving or decision-making, and it thus has a positive impact on CE (Fisher & Maltz, 1997). And making communication effective depends on the communication quality – how properly a message has been delivered – rather than the communication behavior itself. Since communication does not take place simply because one party thinks he/she has communicated; rather, it only occurs when the listener has understood the speaker’s intended message (Service, 2005).

METHODOLOGY

Researchers use a qualitative approach for this study. Qualitative research is research that uses inductive way of thinking, Ways of thinking that departing from the special things (empirical facts) towards common things (concept level) (Kriyantono, 2012, p. 196). While Newman, described that “qualitative researchers are more concerned about issues of the richness, texture, and feeling of raw data because their inductive approach emphasizes developing insights and generalizations out of data collected” (Newman, 2003, p. 137). The method of qualitative research tends to be descriptive, naturalistic, and dealing with “data properties” which are purely qualitative (Irawan, 2007, p. 50).

In this study, researchers use descriptive approach as a type of research. The research with a descriptive nature is used to describe the reality that is going on without explaining the relationship between variables (Kriyantono, 2012, p. 69). Qualitative research focuses on the constructed reality of the research participants (VanderStoep & Johnston, 2009, p. 179). This study sought to describe the experience of the informants related to their behaviour in getting and also spreading informations in their organization.

Data collection techniques are the most strategic step in the research, since the main goal of the study is to obtain data (Sugiyono, 2011, p. 224). The data that is needed by researchers are primary data and secondary data. As the primary data, researchers conducted in-depth interviews and observation. In-depth interviews are a major source of data in qualitative research and a way of exploring informant perspectives and perceptions (Daymon & Holloway, 2011, p. 220). In-depth interviews are a means of collecting data or information by the way of a direct face to face with the informant in order to obtain complete data and in-depth (Kriyantono, 2012, p. 102).

The researchers interview to a number of informants to seek the wide information with natural setting. The informant is a person or a member of a group that are researched. They are expected to have important information (Kriyantono, 2012, p. 101). Informants were selected based on criteria that have been set earlier by researchers. In this study, the informants are a member of organization in Tanri Abeng University. Observation is also conducted in this research.

While in secondary data, researchers use literature study from the appropriate literature and relevant to this study.

From the data obtained, the researchers then perform the processing of the data and then analyze it. Data analysis is performed at any time in collecting data on the field with an ongoing basis (Bungin (Ed), 2008, p. 154). According to Bogdan & Biklen (Irawan, 2007, p. 70), the data analysis is the process of systematically finding and arranging the interview transcripts, field notes, and other materials that you get, all of which you collect to improve your understanding (against a phenomenon) and help you to present your findings to others.

To maintain the quality of this research, the researchers used a validity technique of data. Although qualitative interviewers try to develop an open and honest relationship with informants, they have to be alert to exaggerations and distortions in their informants’s stories (Taylor, Bogdan, & DeVault, 2016, p. 126). That is why, the researchers use triangulation to validation the data. Triangulation is not a tool or a strategy of validation, but an alternative to validation (Flick, 2002, as cited in Denzin; Lincoln, 2005, p. 5). Researchers use triangulation of method. Triangulation of method is an attempt

to check the validity of the data or check the validity of research findings. Triangulation method can be done by using more than one data collection techniques to get the same (Dwidjowinoto in Kriyantono, 2012, p. 73).

RESULTS

The results of the interviews and observation held by researchers are as follows:

Information Flow within Organization at Tanri Abeng University

In high educational institutions, many things need to be coordinated and communicated so that the applied working system can run very well. Like other organization in general, the information flow occurs not only from superiors to subordinates, but also from subordinates to superiors, from among employees, or from one part to another.

Moreover, in educational institutions, not only dealing with members in the institution (supervisor, lecturer, and employees), but also related to the students. Their position is not only as a customer who should be served, but also whenever they are in the institution, they have to maintain the good reputation of it.

Below, the researchers will describe the findings as follows:

1. Downward Communication

For a description of downward communication, the researchers conducted interviews to Mr Sugiharto, as a vice rector of academic fields and also to Mr Johny, as a Head of Informatic Engineering Study Program.

Based on Mr Sugiharto's explanation, he usually communicates with his subordinates about decision or policy that will be socialized to them. In this case, it can be done by using e-mail format PDF letter and signature. Likewise related to the announcement or notice, eg for the meeting coordination. At the top ranks, they usually use e-mail to distribute information about this announcement or notification.

Meanwhile, for the cases that require high firmness, such as warning letters, Mr Sugiharto usually uses formal letter. This is because this method is more effective and gets the response faster compare to using e-mail.

For making an appointment, he uses instant messenger (like WhatsApp) since it is faster to get the response.

From Mr Sugiharto's explanation, when communicating with subordinates, he uses various media, like e-mail, formal letters and also instant messenger.

While Mr Johny, which in the structure is under the coordination of Mr. Sugiharto, is a head of study program. He has lecturers team as his subordinates in Informatic Engineering Study Program.

Based on interviews with Mr. Johny, the researchers gain information that the topic of communication conducted with his subordinates is usually dealing with the system of education and learning, such as exam schedules, the lecturer's teaching learning process recapitulations, exam, the lecturer data, grading, meeting schedule, thesis defense schedule, academic events, discuss troubled students, and so on.

However, the information mentioned above use different mediums to communicate. If it is feasible and easy to understand, usually use e-mail or instant messenger (e.g. WhatsApp). However, there are some things that require face-to-face communication, for example, to discuss the troubled student. This discussion, of course, requires the completion or problem solving, so it requires more in-depth discussions between superiors and subordinates.

Based on observations conducted by researchers, working space and layout in Tanri Abeng University, give opportunity to have meeting between the head of study program and subordinates. Especially in the lecturer room, where the work table position between the Head of Study Program and the lecturers are in an adjoining room, thus allowing more face to face. It is certainly easier in terms of communicating, both superiors to subordinates and subordinates to superiors, including with regard to the information that has been conveyed via instant messenger or via e-mail and allow for reviewing or discussing again while in one room, of course with face-to-face communication.

2. Upward Communication

Some informants are subordinates. They are Mr. Vitrio and Mrs. Wahyu who are lecturers and play as subordinates of their Head of Study Program.

Things that are communicated to their superiors, the Head of Study Program, one level higher than they are, exam schedules, learning and teaching process recapitulation, exam, the lecturer data, grading, meeting schedule, academic events, discuss troubled students, and so on.

However, in addition to associated with tasks and jobs, as a subordinate, of course they are able to communicate with the boss about personal matters, such as permission not to be able in campus. Of course, related to absenteeism, the upper level should be informed and know the reason of his absence.

Similar to Mr Johny's explanation, the media used in communicating among them are e-mail, instant messenger (WhatsApp and SMS) and also face-to face communication.

The point is, the subordinates communicate with their supervisors about things related to their jobs. Besides that, they also communicate with their supervisor about personal things.

Similarly to Mr Johny, although he is a supervisor of lecturers in the field of science, he also has a boss. For personal use, such as having permission, of course he would communicate to his superiors. Also for the purposes of tasks and jobs, as he has been mentioned about what things are communicated to his subordinates, similar to the things that he gain from his superiors.

Meanwhile for Mr Sugiharto, as a vice rector, the boss is a rector. Related to communicating with the boss, Mr Sugiharto prefers using face-to-face communication. Moreover if the problem need deep discussion or long explanation to be delivered. For the urgent and need immediate feedback or to make an appointment, he uses the phone to communicate with his superior.

If the information to be presented to the supervisor need proof or as a follow-up, Mr Sugiharto will use official letter to be delivered to his superior.

So, in communicating to the top leadership of the university, Mr Sugiharto uses the official letter, phone, and face-to-face communication.

In this case, the different levels indicate the difference information to be presented and also the medium used to communicate to his superiors. Getting to the top, the usage of communication medium tend to be more traditional, than in the levels below which many are also use technology based channel, which is associated with the use of instant messenger and Internet.

3. Horizontal Communication

In horizontal communication, which occurs at the same level in the organization, things are communicated among the tasks and jobs, especially in relation to teaching and learning activities. This is the explanation of Mr. Vitrio and Mrs. Wahyu as fellow lecturers. They also typically use e-mail and instant messenger (WhatsApp) in the exchange of information between them.

Sementara Bapak Johny menyatakan, untuk bertukar informasi dengan sesama Head of Study Program, selain terkait dengan kegiatan belajar-mengajar, juga berkenaan dengan rapat pimpinan.

Meanwhile Mr Johny states that to exchange information with fellow Head of Study Program, in addition to teaching and learning activities, also with regard to the leadership meeting.

In one level of authority, the talks are certainly related to the things that are in that level. As in the case with Mr. Johnny, he talked about leadership meeting is certainly not to his subordinates, but to fellow level, as a Head of Study Program.

Getting to the top, the information discussed among levels will be more complex and more specific or to be known only at the level and also at the level of his superiors. While getting down, getting information of a general nature.

4. Cross-Channel Communication

Besides going on in one department, communication can also be performed interdepartmental within the organization. This also happens in Tanri Abeng University.

In this section, the researchers examined the cross-channel communication among the teaching staffs with non-academic staffs. Based on information obtained from interviews with Mr. Johny, Mr Vitrio, and also Mrs Wahyu, they explained that things are often communicated with the non-academic staff, mainly related to personnel matters, such as leave, claim health, submission of funding, and a letter of assignment. For the medium used is a paper (to be written).

This indicates that matters related to personnel, the intention or more focus and emphasis in writing. Aside from tending to impress the official, they are also associated with filing in Personnel Department. This means that, for matters relating to the Personnel, in Tanri Abeng University still use paper instead of paperless communication especially in relation to the submission of employees.

Is It Possible to Implement Paperless Communication in Higher Educational Institution?

From interviews and observations conducted by the researchers, the existing flow of information use a variety of mediums, such as e-mail, instant messenger (WhatsApp and SMS), telephone, letter, and also face-to-face communication.

The use of medium is certainly related to the content of messages to be delivered. Although the content of the message is formal, if it is general (e.g. related to the delivery of information about policy), it can be done by using e-mail and addressed to the relevant units or individuals who should receive the information.

For coordination purposes, it can also be done in a paperless, using e-mail and instant messenger. If face to face is needed, it can be done in coordination meetings which the invitation to be submitted via e-mail and instant messenger. Face to face is also often carried out at top level of the university because it requires more in-depth discussion.

Meanwhile the use of paper, is carried out for the things that are personal (individual) and associated with staffing.

The use of paperless has various advantages. According to the informants in this study, they assume that paperless communication, especially by using e-mail and instant messenger are also considered more efficient, simple, economical, and easy to share. Based on observations, the researchers also add that with the use of paperless communication, especially to superiors (which incidentally are difficult to find because of busyness boss), can still be done without having to meet face to face.

However, in practice, not all information to be disseminated, can be implemented by using paperless. As described previously, mainly related to the individual and employment, they tend to use paper (written).

In addition to the advantages of paperless communication, any weaknesses remain. As expressed by Mr Sugiharto, that the use of paperless tend to get less than the maximum attention of the recipient of the message, the proof takes time, and the level of decisiveness less. While Mr Johny, Mr Vitrio, and also Mrs. Wahyu agreed related to the weakness of this paperless. They state that the recipient is not or lazy to open e-mail, and even tend to underestimate. That is, the degree of urgency of the information conveyed via paperless, mainly through e-mail, for some recipients of the message is regarded as non-urgent information to be read and known. Parties gave the message will also be difficult to keep track of whether the information has been read or not because there is no reply from the recipient's e-mail information. Often the information that has been read, was not immediately responded or did not intend to reply to the e-mail back.

From the above explanation, the researchers underlined that in educational institutions, to apply one hundred percent paperless communication is likely to be difficult. Implementation of paperless communication using e-mail and instant messenger do mainly with regard to content and information more general nature notice. Paperless can also be done face to face, mainly related to specific meetings and discussions, for example about student issues.

Paperless communication is rather difficult to implement, especially related to individuals and personnel who typically require an official letter to the field of human resource development (HRD). While from superiors to subordinates, paper (written) is usually intended to expect special attention of the recipient. Based on information from Mr Sugiharto, a written letter also conducted primarily associated with external parties, e.g. by government or by the parties to work together and require an MoU.

DISCUSSION

As explained by Wayne Pace and Faules (2001), there are four types of information flow within the organization, namely: downward communication, upward communication, horizontal communication, and cross-channel communication. In Tanri Abeng University also occurs the flow of information as mentioned.

Various given information depends on its level. As explained above, if the flow of information is from superiors to subordinates, the information will be more general to be known by his subordinates and the distribution is possible by using e-mail and instant messenger. If it is specific, for example to a personal one, typically by using a formal letter directly to the individual concerned.

For information flows from subordinates to superiors, in the middle level, the use of paperless communication can be fully carried out by using e-mail, instant messenger, and also face-to-face communication. However, for the highest level, the use of letter is still done because it is associated to a ceremonial or identical information delivered via a written letter.

For horizontal communication, information delivered tends to discuss about teaching and learning activities. While the use of the medium, can be applied with paperless communication.

As for cross-channel communication, the informant said that from teachers to non-academic (especially with the Personnel staff) got the finding that if the information related to staffing, it is required letters to communicate. Moreover, the exchanged information is related to staffing itself.

Information flows that occur in Tanri Abeng University, though it is not entirely using paperless communication, but it may still be applied. This is related to the nature of the information to be presented and to whom they are intended.

However, the thing that needs to be underlined is whatever the medium, both paperless or paper communication, the important thing is that the communication that occurs is effective. Making communication effective depends on the communication quality—how properly a message has been delivered—rather than the communication behavior itself. Since communication does not take place simply because one party thinks he/she has communicated; rather, it only occurs when the listener has understood the speaker's intended message (Service, 2005).

As what Service (2005) explained, in relation to the findings, often insensitivity of the message recipient to respond by providing feedback to the sender occurs if we use paperless information, especially by using e-mail. That is not only concerned with understanding the content of the message, but also to respond or provide feedback on the information submitted. Especially if you need an answer or response from the recipient information. Unless the content of the message is only a notification or announcement, may not require a response or a response from the recipient.

If using paperless (mainly via e-mail) does not get a response quickly, it needs re-emphasis of paperless functions in the organization. Mainly related to awareness among members of the organization in response to the content of messages conveyed via e-mail. The attitude might be got by socializing the use of paperless as a concern for environment and is associated with organizational culture that can be developed.

CONCLUSION

From the results and discussion that has been done in the previous section, we can conclude several things:

In Tanri Abeng University, as an educational institution, the information flows are downward communication, upward communication, horizontal communication, and cross-channel communication. The submitted Information are related to the field of the organization, which is associated with learning activities and also related to an individual, for example, health claim. Especially for downward communication, upward communication, and horizontal communication. As for cross-channel communication between the lecturer and the personnel staffs, it is more about the individual and staffing.

For the medium of communication, Tanri Abeng University uses e-mail, instant messenger, phone, and face-to-face communication. For paperless, it is usually associated with general information, such as an announcement or notice. While the use of paper, usually personal, intentional (emphasis added), and also confidential.

SUGGESTION

Mainly related to the medium used, if it leads to a paperless communication, certainly needed the awareness of all parties, not only the top level, but also middle and bottom level. For example the use of e-mail, which in this study found a lack ignorant of the message recipient to the message sent via e-mail. It can be internalized, for example by implementing paperless as one of the organizational culture with regard to efficiency and also minimize the use of paper as part of an environmental concern.

Implementation of paperless in educational institutions even if not thorough, at least can be maximized. Especially if the institution has a good information system and can be applied to all members in the organization

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CONFLICT CAN MAKE YOUR TEAM INNOVATIVE: GOAL ORIENTATION MODERATES THE TASK CONFLICT-TEAM INNOVATION RELATIONSHIP

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ABSTRACT

Although task conflict often has a negative effect on team processes and outcomes, recent advances suggest that task conflict could benefit team innovation in a contingency framework. We extend current research on contingency models of conflict by investigating the goal orientation of teams as a moderator of the task conflict – team innovation relationship. Specifically, we hypothesize that in teams with a high learning orientation (LGO), task conflict and team innovation will have a positive relationship. In teams with a high performance-prove orientation (PPGO) and teams with a high performance-avoid orientation (PAGO), there will be a negative relationship between task conflict and innovation. Results from two studies largely support these hypotheses. We discuss the theoretical and practical implications of our findings.

INTRODUCTION

Task conflict, or disagreements among team members about the taskwork needed to achieve team goals and objectives, is a key challenge that teams face (DeChurch, Mesmer-Magnus, & Doty, 2013; De Dreu, 2006). Although conflict tends to show negative relationships with team performance (De Dreu & Weingart, 2003), recent empirical evidence (de Wit, Greer, & Jehn, 2012) and conceptual models (Jehn & Bendersky, 2003) challenge this assertion and ask whether task conflict could be a good for teams. In particular, meta-analytic evidence shows the relationship between task conflict and team innovation is modest at best, with substantial sampling error suggesting the presence of moderators (Hülshager, Anderson, & Salgado, 2009). Conceptual models of the relationship between task conflict and team performance outcomes suggest that teams can benefit from conflict when it provides an opportunity for learning to occur and stimulate innovation (De Dreu, 2006; Fahr, Lee, & Fahr, 2010). However, not all teams are poised to learn from conflict-laden exchanges. Motivated focus accounts of conflict suggest that only teams who view conflict as an opportunity to learn from teammates, rather than compete with them, will see these advantages (DeDreu & Nijstand, 2008).

We propose that a team's goal orientation composition, or the mean level of each GO dimension in the team (Porter, 2008) determines whether teams possesses this capacity. *Team goal orientation* (GO), a construct describing how team members set proximal goals for completing achievement-based tasks (DeShon et al., 2004), influences how team members manage and respond to challenges during goal pursuit, such as task conflict. Team GO matters because it influences team members' capacity to engage in effortful information processing associated with learning (Kozlowski et al., 2001; Gong et al., 2013). Though several dimensional models of GO exist, a three-dimensional model (Vandewalle, 1997) has emerged as prototypical of the domain in the management literature: a learning orientation (LGO), a performance-prove orientation (PPGO) and a performance-avoid orientation (PAGO). Past research suggests that task conflict is positively related to team learning when it spurs team members to engage in deliberate information processing or when it leads members to seek out ideas and information from fellow members to complete the task at hand (Van der Vegt & Bunderson, 2005).

Based on the contingency model of conflict (Jehn & Benderskey, 2003) and a motivated focus explanation of conflict (de Dreu & Nijstad, 2008), we propose that team GO composition influences team members' capacity to engage in information processing and learning from their peers. More specifically, in teams where members focus on personal development and are motivated to view each

other as collaborators (i.e., high-LGO teams), task conflict should have positive effects on team learning. In teams where members focus on demonstrating their proficiency and are motivated to treat others as potential rivals (i.e., high-PPGO teams) or hazards (i.e., high-PAGO teams), task conflict should be negatively associated with learning. Figure 1 presents our conceptual model for a moderated-mediation relationship in which team learning behaviors mediate an interactive relationship between team GO and task conflict on team innovation (Edwards & Lambert, 2007). We test our model in two studies: a group of cross-functional teams working for a Dutch R&D organization, and a group of undergraduate student project teams at a large Midwestern university in the United States.

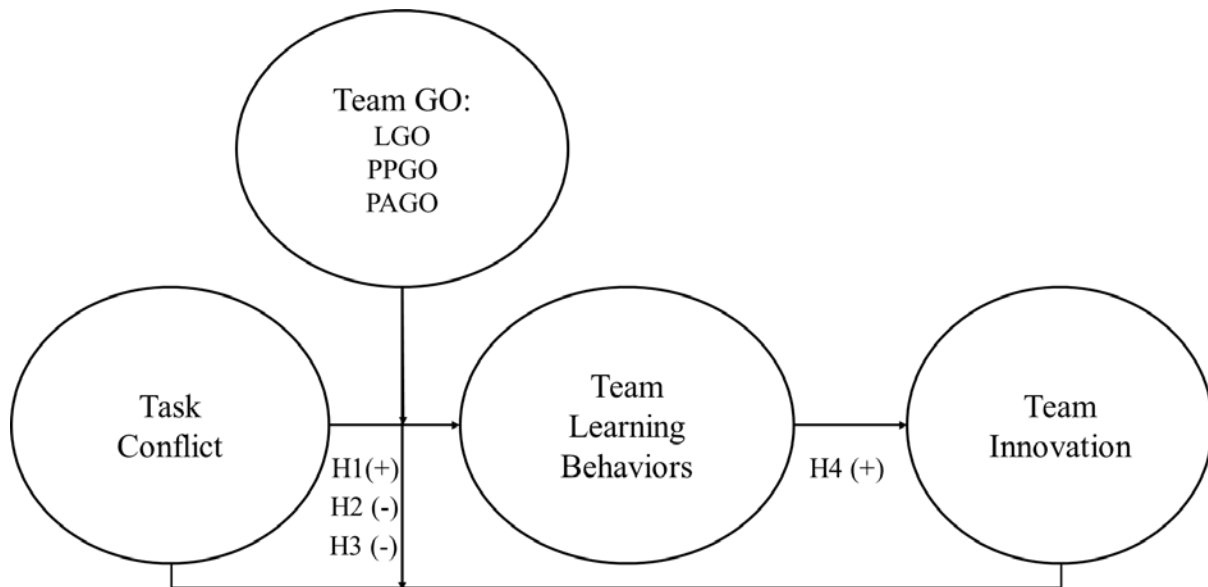


Figure 1. Conceptual Model

In testing our model, we make multiple contributions to the literature. First, we contribute to emerging contingency models of team conflict by identifying learning as a key process that explains when teams may benefit from task conflict and why. Second, we expand understanding of what facilitates and hinders team learning by identifying how team composition and process (task conflict and GO, respectively) combine with each other to produce conditions for conflict-based learning. This study also contributes to the goal orientation literature by building on research findings that GO leads team members to view each other as partners, rivals, or hazards (e.g., Poortvliet & Darnon, 2010). Rather than seeking to reduce conflict, our results offer guidance on how teams can turn it to their advantage.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Contingency Models of Conflict

Task conflict refers to disagreement among team members regarding: a) aspects of team tasks to be completed, or b) the process used to complete team tasks (Jehn, 1995). Although early theory specified that these types of disagreements could have potential benefits for teams (Jehn, 2001), results demonstrating such positive effects remained elusive (De Dreu & Weingart, 2003). More recent research has suggested that the general trend is that conflict has a negative effect on team processes and effectiveness; however, some team processes and psychological characteristics can moderate the conflict-performance relationship in such a way that task conflict can be beneficial (de Wit, Greer, & Jehn, 2012). In this study, we focus on task, rather than relational conflict, as there is little evidence for ambiguity or potential benefits from relation conflict (Shaw et al., 2011). Researchers have developed contingency models of conflict to provide more precise theoretical specifications for what may moderate the task conflict-performance relationship (e.g., Jehn & Bendersky, 2003). Jehn and Bendersky (2003)'s contingency model postulates that task conflict benefits teams when it encourages the team to learn from the information exchanged during task disagreement.

Team Goal Orientation and Capacity for Learning

Past research has developed two equally valid ways of assessing team GO (Porter, 2008): a compositional model that assesses the mean level of each GO dimension in a team and a collective model that uses a referent-shift paradigm to assess a team's agreement about its shared orientation. In this study, we focus on the compositional model. Research on team personality (Ellis et al., 2005; Porter et al., 2003), team cognitive ability (Ellis et al., 2003; Bell, 2007), and team goal orientation (LePine, 2005; Porter, 2005) suggests that such forms of aggregation are an empirically valid approach for predicting group and team behaviors and outcomes.

At the individual level, a learning goal orientation (LGO) encourages individuals to engage in goal setting with internal referents (Dweck, 1986). LGO is a drive to *acquire* competence as compared to one's previous level of competence in a domain. This orientation encourages individuals to view peers as collaborative allies for information exchange and targets of cooperative behaviors (Porter, 2005; Poortvliet & Darnon, 2010). Most critically, high LGO in individuals is associated with self-regulatory capacities and motivation that enable individuals to engage in deep-level information processing strategies like metacognition and task-specific self-efficacy (Klein, Noe & Wang, 2006; Payne, Youngcourt, & Beaubien, 2007) and to learn from interactions with others (Darnon, Butera, & Harackiewicz, 2007; Gabriele & Montecinos, 2001). Mean team LGO provides a team with the capacity to engage in motivated information processing, to learn from others, and to focus on cooperative behavior (Porter, 2008).

When high-LGO teams experience task conflict, they will engage in deep-level processing and deliberation to resolve it (Darnon, Muller, et al., 2006). Teams with high mean LGO have members with the capacity to persist in effortful processing of task-relevant information, stimulating learning and the creation of task-relevant knowledge. High mean LGO composition benefits team-level information synthesis and codification of knowledge (Porter, Webb, & Gogus, 2010). Conversely, teams with a low mean LGO will lack the capacity needed to persist in learning from conflict-laden exchanges. These teams will have less capacity to address the negative impact of task conflicts, including the reduced frequency and efficacy of social interactions among team members (Darnon & Butera, 2007). As such, we predict a negative relationship between task conflict and team learning behaviors in low-LGO teams. In summary, teams with a high mean LGO composition will be more likely to benefit from task conflict because they have the capacity to learn from those experiences; teams with low LGO lack this capacity, reducing their ability to learn from task conflict and the associated interactions between team members. Therefore, we hypothesize the following:

H1: Team LGO will moderate the effect of task conflict on team innovation performance such that the relationship will be a) positive for teams with high mean LGO and b) negative for teams with low mean LGO.

In addition to LGO, Vandewalle (1997)'s model includes two forms of performance orientation: performance-prove orientation (PPGO) and performance-avoid orientation (PAGO). At the individual level, a performance-prove orientation (PPGO) encourages individuals to engage in goal setting with external referents. This motivational drive means that high-PPGO individuals set goals by evaluating themselves in comparison to a peer or peer group. If GO dimensions describe motivations regarding competence in achievement situations, PPGO is a drive to *demonstrate* competence as opposed to acquiring it through self-improvement. This orientation also encourages individuals to view peers as competitive rivals in information exchange (Dompnier, Darnon, Delmas, & Butera, 2008). Past research has shown that PPGO is related negatively to effective collaboration with and learning from peers (Poortvliet, Janssen, Van Yperen, & Van de Vliert, 2007).

In general, a high mean team PPGO diminishes the team's capacity for cooperation among peers, influencing how these teams view and respond to task conflict. In a team with a high PPGO and high task conflict, team members have little motivation to persist in cooperating during disagreements; instead, they are motivated to engage in rivalry and competitive behavior (Darnon, Buchs, & Butera, 2002; Toma & Butera, 2009). In teams with low PPGO, the expected effects of conflict differ. Task

conflict should have a positive relationship with team learning behaviors because team members have little motivation to compete among each other. Thus, when these teams experience task conflict, they are less likely to view it as an opportunity to demonstrate superiority within the team, and are open to learning from task conflict. Teams with low PPGO should have less competition among team members, reducing the potential negative effects of competition. Thus, we hypothesize:

H2: Team PPGO will moderate the relationships of task conflict with team innovation performance such that the relationship will be a) negative for teams with high mean PPGO and b) positive for teams with low mean PPGO.

At the individual level, PAGO, like PPGO, encourages individuals to engage in goal setting with an external referent (Russo, 2014). In the case of high-PAGO individuals, this motivation is based on *avoiding* rather than *approaching* performance goals. If GO describes motivation regarding competence in achievement situations, PAGO is a drive to avoid appearing incompetent. At the team level, this orientation should have two effects. First, it undermines effective responses to disagreement because team members lack the motivation to persist in learning from conflict and disagreement. Rather than task conflict presenting an opportunity to learn, it presents a hazard where one could be proven wrong or incompetent. Second, high team PAGO should have a negative effect on the team's ability to learn, because individuals lack the capacity to set and pursue goals based on internal referents, which are a necessary step in learning (Pintrich, 2000).

Research at the individual-level suggests that high PAGO is associated with anxiety about interpersonal interactions that makes it difficult for individuals to engage in effective interpersonal exchange (Midgley & Urdan, 2001). PAGO also has a generally suppressive effect on learning because it lowers individual's self-efficacy with regard to their ability to develop new knowledge over time (Payne et al., 2007). By extension, a team with a high mean PAGO will also lack the capacity to maintain efficacy beliefs regarding learning through disagreement. In contrast, low-PAGO teams are more like to have at least some capacity to focus on learning and deep information processing, so low mean levels of team PAGO should provide the team with some capacity to learn from task conflict. Therefore, we hypothesize:

H3: Team PAGO will moderate the relationships of task conflict with team innovation performance such that the relationship will be a) negative for teams with high mean PAGO and b) positive for teams with low mean PAGO.

Team Learning

Extant research suggests team learning influences team innovation both via direct channels and its indirect effects through proximal team processes (Mathieu & Schulze, 2006). Past research has indicated that, akin to individual expertise and job performance, team task-relevant knowledge has a strong, consistent, positive relationship with team innovation (Tziner & Eden, 1985; Mathieu & Schulze, 2006). Cooke and colleagues (2003) note that team knowledge guides team effort, helps teams determine effective strategies, predicts potential needs and actions for the team, and selects appropriate actions to maximize team effort. In addition, studies on team knowledge generally acknowledge the additive nature of aggregated measures of team knowledge (Cooke et al., 2000) and team learning (Zellmer-Bruhn & Gibson, 2006). For example, if everyone has access to a piece of information that is necessary for high levels of performance, at least one individual on the team is more likely to recall and effectively use that knowledge. When only one member has access to that information, the probability that the team will have access to use and use this information is lower. Therefore, we hypothesize:

H4: Team learning behaviors will mediate the interactive relationship of task conflict with a) LGO, b) PPGO and c) PAGO on team innovation.

METHOD

Sample and Procedures

We collected two samples to test our model. Our first sample was research and development teams operating in a large, private sector conglomerate firm operating across multiple industries in the Netherlands. Two different sources provided data. First, team members individually completed questionnaires that contained questions about their individual goal orientations and their shared perceptions of conflict. External team leaders provided learning behavior and team innovation performance ratings. Since employees were either Dutch-English bilingual or spoke English as a second language, both Dutch and English versions of the online questionnaire were provided. Surveys were distributed to 530 team members, of which 492 responded to the survey (92.8%). A total of 113 work teams participated along with 100 external team leaders. Teams with unmatched performance data was removed from further analyses. All within-team response rates were over 80%. This resulted in a final sample of 100 teams with 467 individuals. Because the high correlation between the two outcome measures ($r = .76, p < .05$) limited our ability to assess mediation in sample 1, we also collected data in a second sample to assess our mediation hypotheses.

The second sample consists of four-person teams participating in an Introduction to Management class at a large Midwestern US university. At the start of the semester, 623 students formed four-person teams as a part of regular coursework. In week 5, students completed an online assessment of their goal orientation and the degree of task conflict in their team. In week 8, students completed a measure assessing their use of team learning behaviors. In week 10, students submitted a written team project, which we used to assess our measure of team innovation. After excluding teams where less than 75% of the team members responded to the questionnaires, the final sample was 158 teams with 524 individuals.

Measures

Unless otherwise noted, scales were measured using 7-point Likert scales with 1 = “strongly disagree” and 7 = “strongly agree.”

Task Conflict. Task conflict was measured using Jehn’s (1995) four-item scale. An example item is “There is a lot of conflict about how to do the task or ideas generated by this team.” In sample 1, the internal consistency of the scale was .71, and aggregation checks to the team level yielded acceptable values, suggesting a statistically significant amount of team-level variance ($ICC(1) = .06, p < .05$) and that we could reliably differentiate across teams ($ICC(2) = .49$; median $r_{wg} = .77$). In sample 2, the internal consistency of the scale was .85, and aggregation checks to the team level yielded acceptable values ($ICC(1) = .12, p < .05$; $ICC(2) = .54$; median $r_{wg} = .81$).

Goal Orientation. In both samples, the three dimensions of goal orientation were measured at the individual level via Vandewalle’s (1997) scale, then aggregated. This compositional aggregation model is consistent with past team goal orientation research (e.g., Porter, 2005; Porter, 2008). Example items for each dimension included “I enjoy challenging and difficult tasks where I will learn new skills” (LGO), “I am concerned with showing that I can perform better than my peers” (PPGO), and “I prefer to avoid situation where I might perform poorly” (PAGO). In sample 1 (.86 (LGO), .72 (PPGO), .76 (PAGO) and sample 2 (.91 (LGO), .88 (PPGO) and .83 (PAGO)), internal consistencies of the measures were also acceptable. Because we assessed team GO via an additive composition model, we do not assess or report aggregation statistics.

Team Learning. In both samples, we assessed team learning using Edmondson’s (1999) measure of team learning behaviors. Example items include “This team frequently seeks new information that leads us to make important changes” and “Team members go out and get all the information they possibly can from others.” In sample 1, supervisors rated team learning behaviors. Internal consistency of the scale was .86. In sample 2, we used ratings of team learning from team member reports. Internal consistency of the scale was .86. Because the construct uses a referent-shift model (Chan, 1998), we also assessed its aggregation statistics in sample 2. The $ICC(1)$ for the

variable was .14 ($p < .05$), and the ICC(2) was .83 and the r_{wg} was .91, providing justification for aggregation.

Team Innovation. In sample 1, we used super ratings of team innovative performance measured via the scale in Shin and Zhou (2007). An example item is “How well does this team produce new, innovative ideas?” Internal consistency in this sample was .92. In sample 2, team innovative performance was assessed via ratings that three subject matter experts provided on the degree to which the business plan the teams created was innovative. Subject matter experts were master’s students completing an independent study project who were given instructions to assess the degree to which they believed each plan demonstrated innovation. They were blind to the hypotheses of the study. Scores on this assessment ranged from 1 to 10, with higher scores indicating a more innovative business plan. Intrrater reliability assessments (ICC(2) = .86, $p < .01$) suggesting a high degree of agreement.

Control Variables. In both studies, we controlled for relationship conflict, since the effects of task conflict often depend on whether studies control for relationship conflict (de Wit et al., 2012). We also controlled for the interactions between relationship conflict and the GO dimensions to rule out these interactions as alternative explanations for our results. Because studies often suggest that information elaboration and knowledge sharing is a key mechanism of the conflict – performance relationship (Todorova, Bear, & Weingart, 2014; van Knippenberg, De Dreu, & Homan, 2004), we also controlled for knowledge sharing behaviors in both samples.

Because each sample was different, each also had a set of unique controls. In sample 1, we controlled for team size as well as cultural diversity, defined as the number of different citizenships represented in team. In sample 2, based on anecdotal reports that teams with higher percentages of international students experienced more task-related conflict arising from communication difficulties and differing expectations regarding teamwork, we controlled for the percentage of international students on each team and team average performance on prior exams.

Analytic Strategy. To test our main and moderator effects, we used hierarchical linear regressions consistent with Aiken and West (1991). To test our conditional mediation hypotheses (i.e., H1, H2, and H3), we used the R Mediation program to calculate asymmetric 95% confidence intervals with the distribution of products of coefficients method (PRODCLIN; Tofighi & MacKinnon, 2011). The PRODCLIN procedure allows for the calculation of indirect effects of mediation at different levels of a moderator effect (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; MacKinnon, Lockwood, & Williams, 2004).

RESULTS

Table 1

Correlation Matrices

(Sample 1)

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Team LGO	2.05	.80	.86							
2. Team PPGO	3.46	.62	.48	.72						
3. Team PAGO	1.92	.38	-.51	.39	.76					
4. Task Conflict	2.97	.65	.06	-.02	.09	.71				
5. Relationship Conflict	2.19	.28	-.08	-.02	.08	.69	.83			
6. Team Innovation	4.22	1.06	.22	.22	-.16	-.01	-.29	.92		
7. Cultural Diversity	2.16	.56	-.05	-.01	.01	-.09	.08	.05	--	
8. Team Knowledge Sharing	4.35	.61	.18	-.02	-.19	.08	.15	.31	.02	.87

Note. N = 100 teams with 467 individuals. Alpha coefficients listed on the diagonal. Correlations $\geq .14$ have a 95% CI that does not include zero.

(Sample 2)

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1. Team LGO	4.05	.30	.91									
2. Team PPGO	3.46	.32	.02	.88								
3. Team PAGO	2.68	.38	-.32	.39	.86							
4. Task Conflict	3.13	.65	.06	.13	.13	.79						
5. Relationship Conflict	2.19	.28	-.08	-.02	.35	.78	.81					
6. Team Innovation	2.36	1.06	.05	.05	.00	-.01	.19	.86				
7. Team Knowledge	77.67	7.13	.03	.06	.22	-.10	.13	.20	.82			
8. International Students	.14	.21	-.05	-.01	.01	-.02	.08	.05	-.03	--		
9. Learning Behaviors	3.12	1.12	-.09	.04	.10	-.05	-.18	.33	.37	-.01	.86	
10. Knowledge Sharing	2.81	.79	.36	.11	-.28	.09	-.21	.35	.12	.03	.51	.81

Note. N = 158 teams with 524 individuals. Alpha coefficients listed on the diagonal. Correlations $\geq .12$ have a 95% CI that does not include zero.

Hypothesis 1 states that the relationship of task conflict with team innovation performance will be positive when team LGO is high and negative when team LGO is low. Results from Table 2, model 2 show that the interaction between task conflict and LGO is statistically significant ($\beta = .15, p < .05$). A simple slopes analysis shows that when team LGO is high, task conflict has a positive relationship with team innovation ($\beta = .12, p < .05$). Conversely, when team LGO is low, task conflict has a negative relationship with team innovation performance ($\beta = -.18, p < .05$). Figure 2 depicts these results graphically.

For sample 2, results in Tables 3 and 4 show that the interaction between task conflict and mean LGO is statistically significant ($\beta = .18, p < .05$.) Simple slopes analysis shows that the relationship between task conflict and team innovation is positive when mean LGO is high ($\beta = .21, p < .05$) and negative when mean LGO is low ($\beta = -.15, p < .05$). Therefore, Hypothesis 1 is supported.

Table 2
Regression Effects (Sample 1)

Variables	Model 1: Team Innovation	Model 2: Team Innovation
	β (SE)	β (SE)
Team Size	-.06 (.08)	-.07 (.09)
Cultural Diversity	-.09 (.05)	-.18* (.06)
Team LGO	.03 (.05)	.03 (.11)
Team PPGO	.15 (.06*)	.16* (.14)
Team PAGO	.04 (.07)	-.22* (.12)
Relationship Conflict	-.19* (.05)	-.15* (.07)
Task Conflict	.03 (.09)	-.03 (.05)
Team LGO x Task Conflict		.15* (.05)
Team PPGO x Task Conflict		-.12* (.05)
Team PAGO x Task Conflict		.00 (.06)
Team LGO x Relationship Conflict		.09 (.05)
Team PPGO x Relationship Conflict		.05 (.06)
Team PAGO x Relationship Conflict		.06 (.05)
Team Knowledge Sharing		.25* (.04)
R/R ²	.40/.16*	.48/.23*
ΔR^2		.04*

Note. N = 100 teams with 467 individuals. All regression coefficients are standardized. In equation 1, ΔR^2 represents the incremental validity accounted for by the GO x Conflict interactions. In equation 2, ΔR^2 represents the incremental validity accounted for by including Team Learning Behaviors in the model. Standard errors are reported in parentheses.

† $p < .10$.

* $p < .05$.

** $p < .01$.

Table 3
Regression Effects (Sample 2)

Variables	Equation 1: Team Learning Behavior	Equation 2: Team Innovation	Equation 3: Team Innovation
	β (SE)	β (SE)	β (SE)
Prior Team Knowledge	.13* (.07)	.15* (.07)	.16* (.07)
International Students	-.09 (.08)	.20* (.06)	.18* (.06)
Team LGO	.26** (.07)	-.04 (.07)	-.04 (.08)
Team PPGO	-.09 (.05)	-.08 (.08)	-.10† (.05)
Team PAGO	.04 (.06)	.04 (.06)	.04 (.06)
Relationship Conflict	-.16* (.04)	-.15* (.04)	-.17 (.04)
Task Conflict	.03 (.04)	.03 (.05)	.04 (.04)
Team LGO x Task Conflict	.17* (.04)	.18* (.04)	.09† (.04)
Team PPGO x Task Conflict	-.12* (.04)	-.13* (.04)	-.03 (.06)
Team PAGO x Task Conflict	.00 (.06)	.00 (.06)	.00 (.06)
Team LGO x Relationship Conflict	.01 (.04)	.01 (.06)	.00 (.06)
Team PPGO x Relationship Conflict	.02 (.05)	.09 (.06)	.02 (.05)
Team PAGO x Relationship Conflict	-.01 (.04)	.03 (.05)	-.07 (.06)
Team Knowledge Sharing			.28* (.03)
Team Learning Behavior			.25* (.06)
R/R ²	.41/.17*	.36/.13*	.55/.30*
ΔR^2	.06*		.04*

Note. N = 158 teams with 524 individuals. All regression coefficients are standardized. In equation 1, ΔR^2 represents the incremental validity accounted for by the GO x Conflict interactions. In equation 3, ΔR^2 represents the incremental validity accounted for by including Team Learning Behaviors in the model. Standard errors are reported in parentheses.

† $p < .10$.

* $p < .05$.

** $p < .01$.

Hypothesis 2 states that the relationship of task conflict with team innovation will be positive when team PPGO is low and negative when team PPGO is high. Results from Table 2, model 2 show that the interaction between task conflict and team PPGO is statistically significant ($\beta = .15, p < .05$). A simple slopes analysis shows that when team PPGO is high, the relationship between is negative ($\beta = -.15, p < .05$) and positive but marginally significant when team PPGO is low ($\beta = .09, p < .10$). Figures 2 and 3 graphically depict these results.

For sample 2, results in Tables 3 and 4 show that the interaction between task conflict and mean PPGO is statistically significant ($\beta = -.13, p < .05$). A simple slopes analysis shows that the relationship between task conflict and team learning is negative when mean PPGO is high ($\beta = -.10, p < .05$) and positive and significant when mean PPGO is low ($\beta = .16, ns$). Results also show that for team learning, the interaction between PPGO and task conflict is significant ($\beta = -.12, p < .05$). A simple slope analysis shows that the relationship between task conflict and team learning behaviors is negative when mean PPGO is high ($\beta = -.18, p < .05$) and the relationship is positive when mean PPGO is low ($\beta = .30, p < .05$). Figure 3 displays a graph of this interaction. The results in Table 3 show that the indirect relationship of task conflict with team innovation is negative when PPGO is high ($\alpha\beta = -.03, p < .05$) and that the indirect relationship of task conflict with team innovation is statistically significant and positive when team PPGO is low ($\alpha\beta = .04, p < .05$). Therefore, H2 is supported.

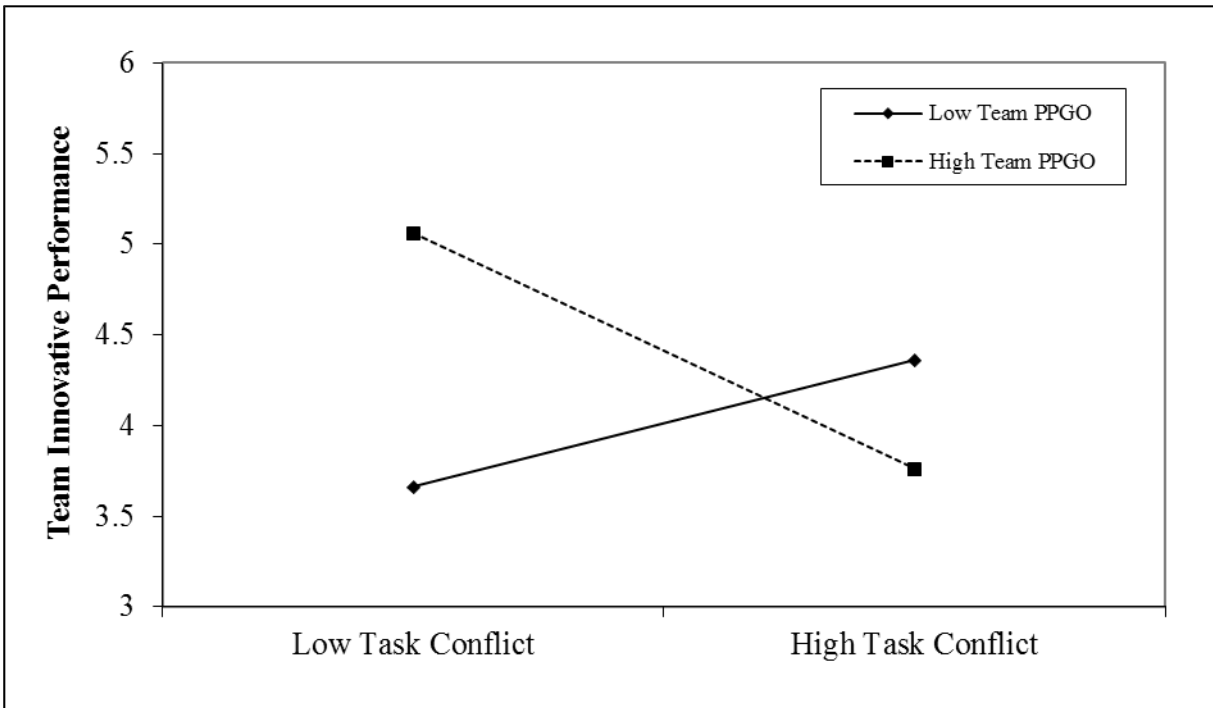
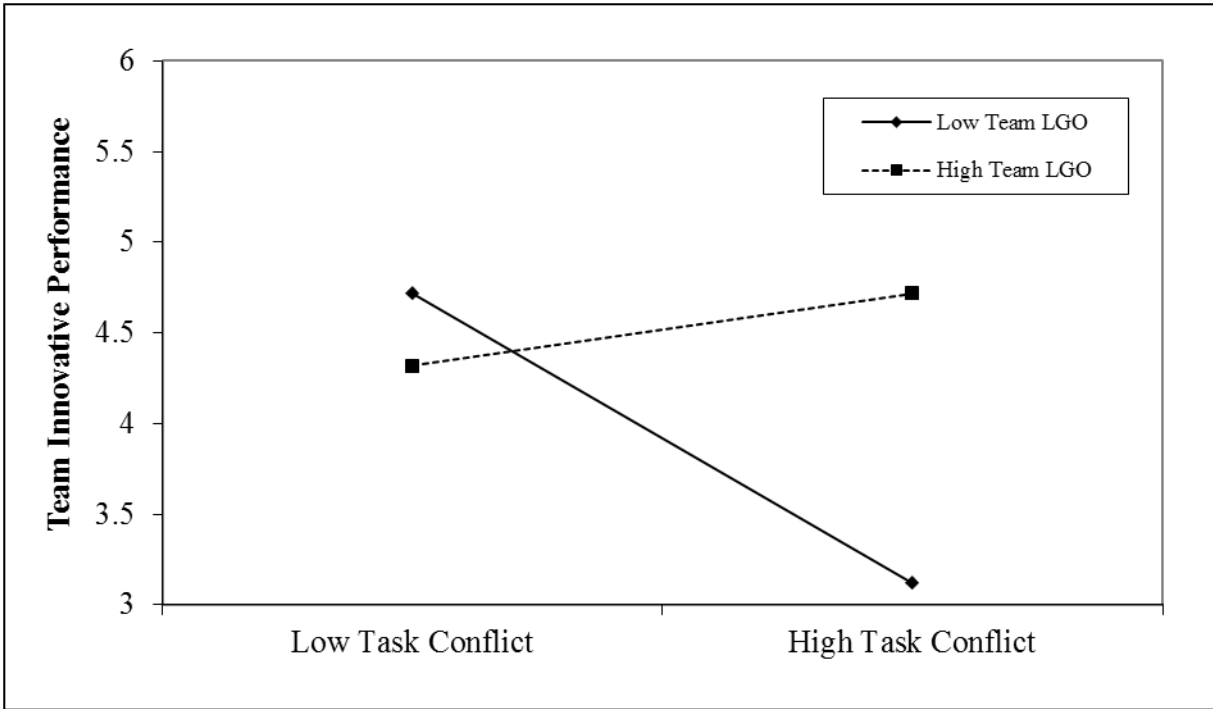


Figure 2. Interactions of Task Conflict and Team GO on Team Innovation (Study 1)

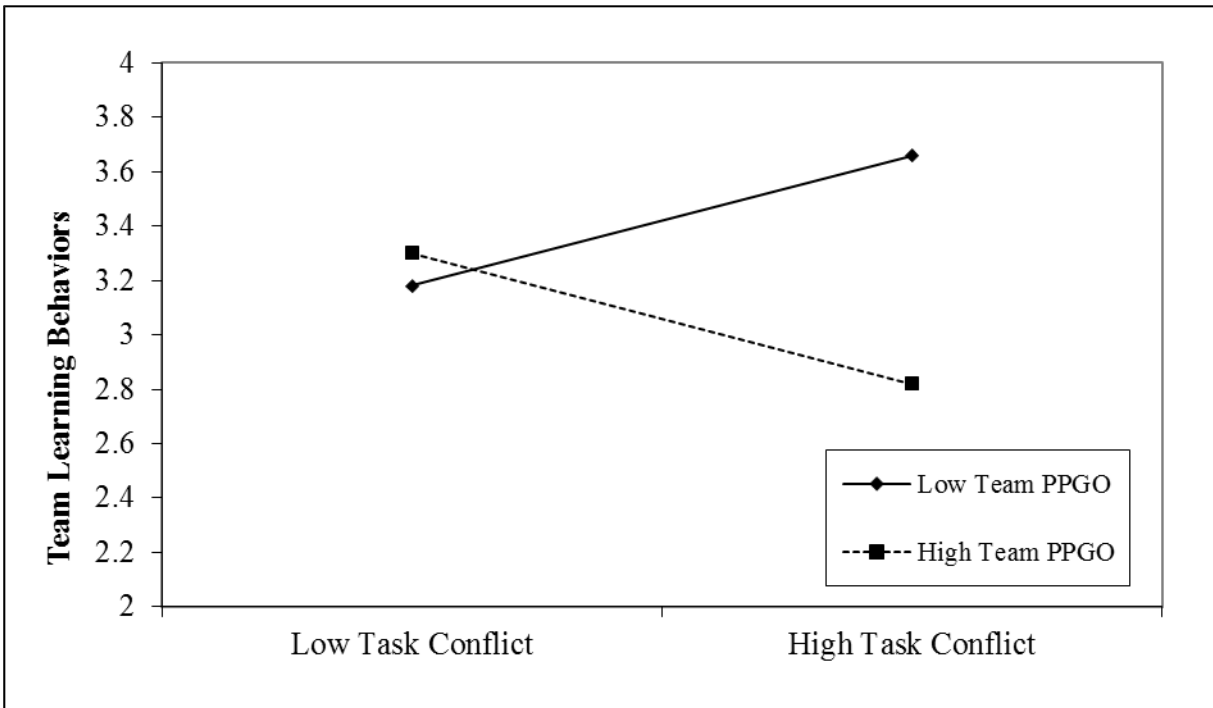
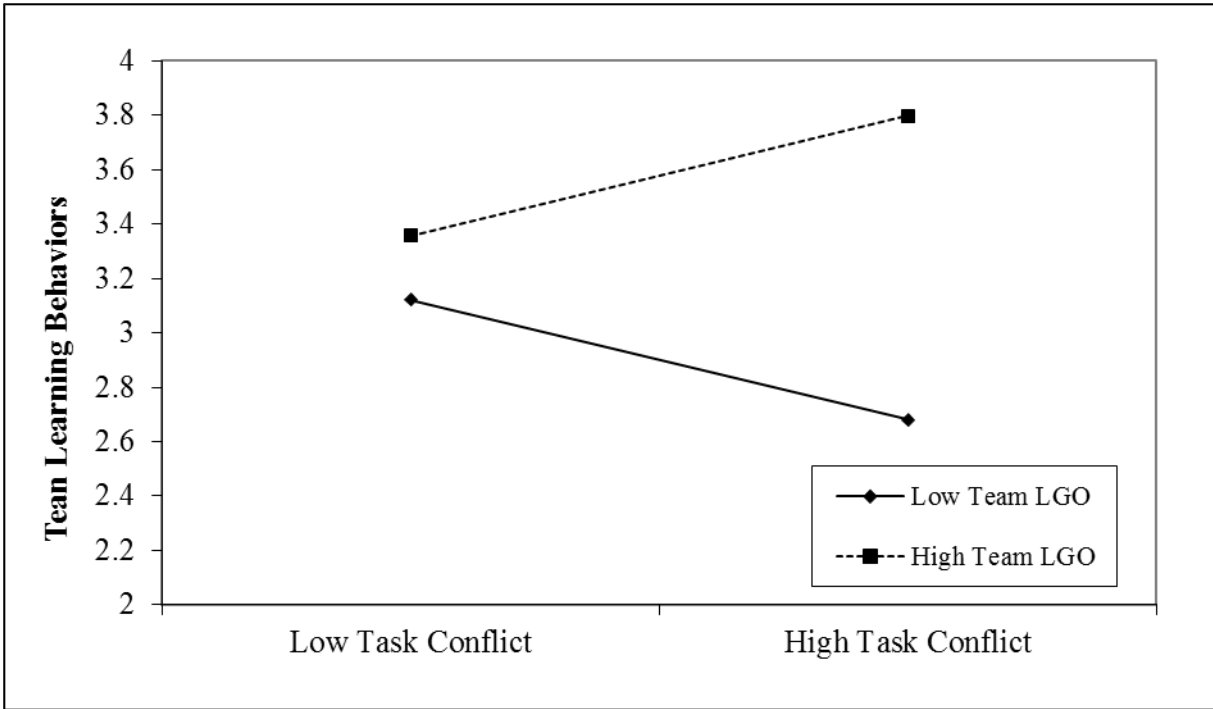


Figure 3. Interactions of Task Conflict and Team GO on Team Learning (Study 2)

Table 4.

Sample 2 Simple Effects of Task Conflict on Innovation Performance at High and Low Levels of Compositional GO

Path	First Stage ^a α	Second Stage ^b β	Direct ^c γ	Indirect ^d $\alpha\beta$
Low LGO (-1 SD)	-.28* (-.42, -.14)	.25* (.13, .37)	-.05 (-.13, .03)	-.07* (-.12, .02)
High LGO (+1 SD)	.40* (.27, .53)	.25* (.13, .37)	.13* (.05, .21)	.10* (.04, .16)
Difference	.68* (.63, .73)	.00		
Low PPGO (-1 SD)	.30* (.16, .44)	.25* (.13, .37)	.07 (-.01, .15)	.08* (.05, .11)
High PPGO (+1 SD)	-.18* (-.33, -.03)	.25* (.13, .37)	.01 (-.07, .09)	-.05* (-.08, -.02)
Difference	.48* (.36, .60)	.00		
Low PAGO (-1 SD)	.06 (-.10, .22)	.25* (.13, .37)	.04 (-.04, .12)	.02 (-.02, .08)
High PAGO (+1 SD)	-.02 (-.18, .14)	.25* (.13, .37)	.04 (-.04, .12)	.01 (-.02, .04)
Difference	.08 (-.07, .23)	.00		
Note: N = 158 teams. Bias-corrected 95% confidence intervals are reported in parentheses. + 90% CI does not contain zero. * 95% CI does not contain zero. a. Task Conflict → Team Learning Behaviors. b. Team Learning Behaviors → Team Innovation Performance. c. Task Conflict → Team Innovation Performance. d. Task Conflict → Team Learning Behaviors → Team Innovation Performance.				

Hypothesis 3 states that the effect of task conflict on team innovation will be negative when team PAGO is high. Results from Table 2, model 2 show that for team innovation, the interaction between task conflict and team PAGO is not statistically significant ($\beta = .00$, *ns*). For sample 2, results in Table 3, models 2 and 3 show that the interaction between PAGO and task conflict is not statistically significant for team innovation ($\beta = .00$, *ns*) or team learning ($\beta = .00$, *ns*). Because neither interaction in the two samples is statistically significant, Hypothesis 3 is not supported.

Hypothesis 4 states that team learning behaviors will mediate the relationship between task conflict – team GO interactions with team innovation. We focus on Sample 2 as a test of this hypothesis. Table 4 displays the results for this hypothesis and shows that when mean LGO is high, the indirect relationship between task conflict and team innovation is positive ($\alpha\beta = .07$, 95% CI: [.01, .14]), and when mean LGO is low, the relationship is negative ($\alpha\beta = -.07$, 95% CI: [-.11, .01]). These results support H4a. Table 4 also contains results for the indirection relationship at different levels of PPGO. When mean PPGO is high, the indirect relationship between task conflict and team innovation is negative and significant ($\alpha\beta = -.03$, 95% CI: [-.07, .01]). When mean PPGO is low ($\alpha\beta = .04$, 95% CI: [.01, .11]), the indirect relationship is positive and significant. These results support H4b. Table 4 also contains the results for the relationship between task conflict and team innovation at different levels of PAGO. Whether mean PAGO is high ($\alpha\beta = .00$, 95% CI: [-.01, .03])

or low ($\alpha\beta = .01$, 95% CI: [-.02, .03]), the relationship is not significant, which does not support H4c. Thus, Hypothesis 4 is partially supported.

DISCUSSION

Drawing from contingency models of conflict (Jehn & Bendersky, 2003), we incorporated mean team goal orientation composition into a model of how teams can learn from task conflict. As we hypothesized, GO dimensions moderated the effects of task conflict on team learning. These effects were largely congruent with our theory: when teams had high LGO and low PPGO, task conflict had positive relationships with team learning. Conversely, when teams had low mean LGO or high mean PPGO, task conflict had negative relationships with team learning and innovation. Further, the mediating model in sample 2 strongly suggests that learning is a key mechanism of the relationship between task conflict and team innovation. Although the results largely were consistent with our hypotheses, some of the forms of the interactions were more complicated than we anticipated. Our results have implications for theory related to task conflict in teams, goal orientation, and models of team knowledge and learning.

Implications

Our study contributes to the literature by testing and extending the logic of when and why task conflict can benefit team innovative performance. Our study focused on two important links. The first link is to test and extend the logic of learning espoused in contingency models of conflict. Task conflict represents an opportunity for teams to learn, and team GO is a useful tool to describe whether team members set goals regarding learning. Second, both conflict and goal orientation are relevant to achievement contexts and the completion of tasks and objectives. Task conflict represents a challenge or obstacle to achieving and completing a team's objectives. A team's mean GO determines how team members react to such challenges to their objectives. Given how these constructs theoretically dovetail, it is surprising that more researchers have not investigated them jointly. Researchers in the conflict literature have called for studies that better identify the process that links task conflict to team performance outcomes (Todorova et al., 2014). This study addresses that call by examining the interplay between GO and conflict, offering insight into how to make the most of task conflict in teams by encouraging team learning.

The practical implications of this study provide guidance for managers on how to better use the GO of a team to sublimate the negative effects of task conflict on team innovation. Research on goal orientation suggests that managers have a substantial ability to control and influence the state goal orientations of both their subordinates and the teams and other business units they supervise (Dragoni, 2005; Dragoni & Kuenzi, 2012). Our results suggest that when managers are faced with teams that experience high levels of task conflict, they should encourage these teams to focus on developmental goals and reduce focus on high performance and performance-avoid goals. Managers can use reward programs, performance management policies, and other tools in their supervisory purview to encourage teams to develop high LGO and reduce PPGO and PAGO. Conversely, our results also suggest that in situations where task conflict is low, encouraging a team to develop a high level of PPGO, perhaps through friendly competition, may also hold value.

Limitations and Future Research Directions

Although our study has a number of strengths, we also elucidate its limitations and how they could spur future research. First, our field sample uses different sources of data; however, the collection process was essentially cross-sectional, and we did not capture multiple assessments of the constructs over time. In the student sample, we used a lagged design; however, we did not measure GO, task conflict or performance repeatedly. More research on the dynamic interplay between team process and team innovation is likely necessary. For example, high levels of innovation success early in a team's history may favor the development of high PPGO, which could lead to problems for a team if tasks become more complex or ambiguous. Similarly, other research has shown that low past performance can influence the adoption of an increased LGO that encourages low-performing teams to improve (Bunderson & Sutcliffe, 2003). More research on the emergence of collective team GO over time would be valuable.

Second, our study only examined one dimension of conflict. We focused on task conflict based on Jehn (2001)'s specifications about conflict types. Task conflict focuses on issues related to different perceptions of a task and how individuals may possess different information and perspectives about their shared task. Because GO is related to issues regarding information, knowledge, and learning in teams, task conflict and team learning were the most theoretically relevant constructs. However, future research could investigate how GO moderates a different conflict-outcome relationship. For example, relationship conflict is sometimes related to social comparisons and issues of interpersonal power and perceptions of competence among members (Sturm & Antonakis, 2015). Because PPGO and PAGO are linked to peer comparisons, such an investigation could fruitfully further research on team conflict.

CONCLUSION

Our study suggests that team's goal orientation compositions impacts whether a team can effectively convert task conflict into learning and innovation. In doing so, our research addresses a gap in the literature regarding moderators of the task conflict-performance relationship, links between GO and other processes, and models of team-based knowledge and learning. Our study also answers a general, practical question about when teams can learn from task conflict and can guide future research on how goal orientation can influence other team processes related to learning and performance in teams.

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PROACTIVE COMPLAINT MANAGEMENT : EFFECTS OF UPSETTING VOICE ON JUSTICE PERCEPTION

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ABSTRACT

Relatively little research has addressed the role of voice opportunity in service failure incident .This study attempts to investigate how perceived justice of service recovery can be influenced by an organizational procedure which proactively encourages dissatisfied customers to voice complaint to service provider. In conceptualizing a new concept of, “upsetting voice”, the theoretical framework is proposed to demonstrate its significant impact on perceive justice .The framework is empirically tested using scenario-based experiment .The results are expected to report that customer perceived higher procedural justice when they are invited to voice their dissatisfaction to the company . Moreover, resulted from upsetting voice concept, perceived procedural justice is expected to be able to mediate the effects of upsetting voice on distributive and interactional justice.

Keywords :service failure, service recovery, consumer complaining behavior, non-complainer, perceived justice, upsetting voice

INTRODUCTION

By nature of services themselves, there is likelihood of service failure (Hart, Heskett, & Sasser Jr, 1989; Tax & Brown, 2012) which usually end up with customer dissatisfaction (Fu, 2003; Michael A McCollough, Berry, & Yadav, 2000). From consumer complaining behavior perspective, researchers have classified response of dissatisfied customer into four categories, i.e. direct complaint (to service provider), word of mouth, third party complaint and no complaint (Kim, Wang, & Mattila, 2010; Singh, 1988). Majority of dissatisfied customers choose other options rather than directly complaint to service provider (Tax, Brown, & Chandrashekar, 1998; Voorhees, Brady, & Horowitz, 2006). This is risky for organization; because the other options might be, solely or in combination of, negative word of mouth, complaining to the third party. However, the good complaint management policy can transform service failure as a good opportunity to turn customer dissatisfaction to be satisfaction (e.g. Evanschitzky, Brock, & Blut, 2011; Karande, Magnini, & Tam, 2007).

Previous research suggested organization to encourage direct complaint since it could improve customer satisfaction (Sparks & McColl-Kennedy, 2001). This is in line with recovery voice (Karande et al., 2007) which is used as mechanism to obtain customer’s need for service recovery method. Recovery voice can turn dissatisfied customer to be satisfied one as well as co-creation technique in which customer have participation in designing service recovery method (Dong, Evans, & Zou, 2008; Xu, Marshall, Edvardsson, & Tronvoll, 2014). Further, Roggeveen, Tsiros, and Grewal (2012) found service recovery co-creation to be positive for repurchase intention.

Unfortunately, little in the literature addresses how to push dissatisfied, non-complaint, customers to release their negative emotions, anxiety, displeasure, etc., to service provider, when service failures occur. Moreover, the influence of customers’ voice opportunity on perceived justice has not been explored. Drawing from voice opportunity concept which suggested that consumers prefer to feel they can influence firms’ recovery outcome (Goodwin & Ross, 1990), the current study fills those mentioned gaps by initiating organizational procedure to offer customer the voice opportunity and examining the effects of the procedure and service recovery on non-complainer’s perceived justice. To summarize, the purposes of this study are:

1. To propose the upsetting voice concept.
2. To investigate the effects of upsetting voice on customer evaluation of service recovery.

3. To examine the mediating roles of perceived procedural justice in relationship between upsetting voice and perceived distributive justice and perceived interactional justice.

SERVICE FAILURE AND SERVICE RECOVERY

The goal of service business, during and immediately after delivering service to the customer is to maximize customer's positive evaluation which could have positive effects on future behavioral outcomes. So far, service providers regularly put efforts to generate impressive experiences for customers. However, service failure is common and accepted as part of service (Hart et al., 1989); therefore, service recovery becomes necessary process to recover disappointment and to retain those disappointed customers.

After the recognition of service failure, service providers show responsibility to recover the customers' unimpressive experience from service encounter (Gronroos, 1988). Many recovery actions are applied in order to alter the negative perceptions toward service providers (Schweikhart, Strasser, & Kennedy, 1992). In most cases, successful service recovery has significant impact on customer evaluations, including customer satisfaction (De Matos, Henrique, & Rossi, 2007; Duffy, Miller, & Bexley, 2006; Maxham III, 2001; Michael Ashton McCollough, 1995; Spreng, Harrell, & Mackoy, 1995; Tsai, Yang, & Cheng, 2014; Webster & Sundaram, 1998), word of mouth intention (Herson, 2011; Matos, Fernandes, Leis, & Trez, 2011; Schumann, Wunderlich, & Evanschitzky, 2014), repurchase intention (Riscinto-Kozub, 2008; Webster & Sundaram, 1998) and corporate image perception (Mostafa, Lages, Shabbir, & Thwaites, 2015).

Central to service recovery literatures, researchers employ justice perception, formed by consumers, to measure effectiveness of service recovery actions as it can mediate the effects of service recovery to many important consumer psychological and behavioral outcomes, for example, satisfaction, loyalty, word of mouth intention, repurchase intention, etc. (Azab, 2013; Chebat & Slusarczyk, 2005; Ha & Jang, 2009; Michael A McCollough & Bharadwaj, 1992; Patterson, Cowley, & Prasongsukarn, 2006; Smith, Bolton, & Wagner, 1999; Trimarco-Beta, 2007). In theory of perceived justice, the theorists have classified justice perception into three dimensions, namely, perceived distributive justice, perceived procedural justice and perceived interactional justice. Each dimension can explain individual's perceived fairness to service recovery in different angles.

Employing principles of perceived justice theory, recovery actions attempted by service provider will be evaluated in all dimensions. Following service failure, any form of compensation made by service provider, is evaluated based on perceived fairness of an exchange between customers' input (perceived loss from service failure) and outcome (compensation received from service provider) (Hoffman & Kelley, 2000; Michael Ashton McCollough, 1995). This dimension of justice is known as perceived distributive justice. The procedure to reach the outcome is perceived by customer as procedural justice (Michael Ashton McCollough, 1995). And finally, the interaction of service employee during recovery process is evaluated by consumer and called perceived interactional justice (McColl-Kennedy & Sparks, 2003).

CONSUMER COMPLAINING BEHAVIOR

Successful service recovery primarily depends on whether service providers got an opportunity to redress service failure. That is, recovery action will be performed only if service providers aware that service failure has taken place. The traditional method which service provider use to obtain service failure information, other than employee's realization, is customer direct-complaint. This can be implied that complainers support service providers by providing valuable information of the point that needed to be improved and opportunity to improve it (Davidow & Dacin, 1997).

Unfortunately, very little number of customers who dissatisfies with the service chooses to complain with the service provider. The complaint behavior literature suggested that while only 5-10% of dissatisfying customers voice complaint to service provider, up to 90% who do not complain directly with service provider may choose to remain silence and inevitably continue patronage; some may choose to complain with third party; and the remaining may choose to spread negative word of mouth

in various forms (Tax & Brown, 2012). The large number of those unsatisfied customers, who do not complain with service provider, brings about challenge job for service providers. Because the complainers are more likely to be satisfied and intent to repurchase than the non-complainers (Kau & Loh, 2006).

It can be said that while most dissatisfying consumers choose not to complain with the service provider, most studies pay more attention to complaining behavior than non-complaining behavior (Chebat, Davidow, & Codjovi, 2005; Ro & Mattila, 2015; Voorhees et al., 2006). Even though some studies have explored the differences between complainers and non-complainers, for example, Kau and Loh (2006) compared behavioral intention of dissatisfied customers who lodged complaint and received service recovery with those who did not complain and received no service recovery. By the mentioned scope, this study did not examine how service recovery affects non-complainers because they did not receive any recovery actions. Voorhees et al. (2006) have compared the difference reactions among groups of complainers and non-complainers across important outcome variables. Their study reported the expected results in lined with equity theory which predicts the positive social exchanges perception when customers' inputs-to-outcomes ratio decreases (Adams, 1963) However, service failure always initially upset customers for both complainer and non-complainer.

An occurrence of service failure engenders customer dissatisfaction with service provider (Fu, 2003; Michael A McCollough et al., 2000) and ultimately directs negative impact on behavioral intention and behavioral outcomes (Cai, 2014; Kerr, 2004; Lin, 2010; Wan, 2013). How those dissatisfied customers response to service failure incident are accounted for by personal characteristics and situational variables (Kim et al., 2010; Stephens & Gwinner, 1998). Four types of initial responses which will result in different negative behavioral outcomes will fall into one or more following actions of (1) no action; (2) spreading negative word of mouth; (3) voicing complaint to service provider; and (4) voicing complaint to the third party (Kim et al., 2010; Singh, 1988).

After a revision of complaining behavior in today's context, Grégoire, Salle, and Tripp (2015) have ranked customers' complaining behavior to be three levels consisting of good, bad and ugly. These three levels of behavior fit some of those mentioned consumers' responses to service failure. Where "good" refers to customers' complaint made directly to the firm and communication of the good recovery. The "bad" involves negative e-WOM and third party complaint. The "ugly" encompasses e-WOM made on user content-generated media (e.g. Youtube) which may finally result in customer-stolen by competitor. Even though, taking no action is not classified into any behavior, it may fit "bad"; because those who do not show any types of complaint can be one of those who is ready to switch to other service providers (Singh, 1990).

As the consequences of other types of complaint are always negative to the organization, modern service providers generally prefer customers' complaint voiced directly to them. By its nature, direct complaint to service providers means the firm has a chance to fix for any displeasure. The unvoiced, to service provider, complainer is considered as "opportunity cost" for organization (Fornell & Wernerfelt, 1987) because once they are not aware of service failure; they then miss an opportunity to have some actions to keep their customers. Furthermore, it has been suggested that, in some situations, excellence service recovery can turn the customers' irritation to be satisfaction which is greater than if thing have gone smoothly at the beginning (Hart et al., 1989), so-called service recovery paradox (Michael A McCollough & Bharadwaj, 1992).

The other kind of responses: no action, spreading negative word of mouth and voicing complaint to the third party will not allow service provider to provide recovery actions or allow but not in timely manner. When dissatisfied customers keep silent, they might have considered that voicing to the firm does not worth their time and effort (Voorhees et al., 2006). Those customers may still re-patronage, however, this is not the true loyalty (Zeelenberg & Pieters, 2004). Conversely, the silent action is potential harmful for service providers. White and Yanamandram (2004) pointed out that inert customer considers about switching service provider, the delay caused by un-readiness to immediately change.

Word of mouth is referred to as “informal communications directed at other consumers about the ownership, usage, or characteristics of particular goods and services and/or their sellers” (Westbrook, 1987, p. 261). The communicated message can be either positive or negative approach (Hennig - Thureau, Gwinner, Walsh, & Gremler, 2004). Evidence from word of mouth study was reported that negative word of mouth has a stronger impact for potential customers, than positive word of mouth (Hart et al., 1989). The evolution of internet/technology bring about the bigger challenge for service provider; when word of mouth can be made online (Van Noort & Willemsen, 2012) and large number of consumers, potential consumers and third parties can reach and further spread WOM message, so-called e-WOM or e-complaint. Influence of negative e-WOM, on reviewer, impacts service provider in many ways. In corporate level, it impacts the corporate’ reputation (Tripp & Grégoire, 2011). In individual level, it affects customers’ behavioral intention of repurchase (Verhagen, Nauta, & Feldberg, 2013) , switching (Verhagen et al., 2013).

As aforementioned, consequence of all types of complaints, following service failure, other than complaint with service provider will always negatively impacts the firm. However, service failure is unavoidable incident in service context (Hart et al., 1989; Tax & Brown, 2012). For that reason, any types of complaint are also unavoidable. With consideration of a small number of direct complaints, it would be highly beneficial if there is a method that could turn more direct complaint. The current study proposes new organizational procedure, “upsetting voice”, to gain more direct complaint and prevent the other types of complaint which will be harmful for the firm.

UPSETTING VOICE

Voorhees et al. (2006) revealed two important factors which make people do not choose direct complaint option following service failure. These two important factors consist of perceived time and effort to make complaint, called complaining barrier. To examine the effects of complaining barrier, Evanschitzky et al. (2011) pay attention on perceived effort’s effect on complaint intention effects. In this study, they set up complaint stimulation for customer who encountering service failure and manipulated complaint stimulation by providing high and low level of effort to make complaint. The results of study are consistent with the literatures, the higher the complaint barrier, the lower the complaint intention. Only customers with high relationship with the company exhibit high intention to complain irrespective of the level of complaint barriers.

To lessen customers’ time and effort to complain, Karande et al. (2007) introduce new procedure, namely, recovery voice. Recovery voice concept is defined as the process which service provider encourages customers who encountered service problem to identify what they require service provider do to rectify the problem. By applying this procedure, customers do not have to make complaint because service providers will directly ask customers to identify what they want firms to resolve for service failure. A central assumption of this study is recovery voice concept would improve customers’ perception of procedural justice. Result from this study reveals that when service provider offers recovery voice, customer perceive higher procedural justice.

With the same purpose in attempting to deliver recovery action for unsatisfied customers, the current study adopts concept of voice opportunity which identifies that consumers will be satisfied if they are allowed to speak freely (Goodwin & Ross, 1990). Hence, we incorporate recovery voice and voice opportunity together and propose the new method which does not only take recovery action, but also accepts complaint from those unsatisfied customers. To encourage non-complainer to elicit the displeasure and recovery need, the current study introduces “upsetting voice” process as a mechanism for inviting complaint from unsatisfied customer who do not intend to complaint on one own. The following discussion shows how upsetting voice is processed and how it is different from recovery voice.

Firstly, steps before service recovery action, upsetting voice process intend to identify whether there is any service failure in service encounter, from customer point of view. Promptly after service transaction, customers will be approached to rate how they satisfy with service transaction. In case of dissatisfaction; they will be invited to voice complaint.

Secondly, recovery voice only asks dissatisfied customers to specify what they want to be addressed by service provider, whereas upsetting voice is opened for any expressions of bad feeling, disappointment, frustration, recommendations, etc. In accordance with upsetting voice concept, if customers do not specify recovery method, staffs will detect what is the cause of failure, what disappoints customer and what recovery methods best fit service failure.

Thirdly, according to recovery voice study, the experiment is only relevant to outcome failure, whereas in service failure literature, two categories of service failure are recognized as (1) outcome failure and (2) process failure. Process failure refers to failure occurred in service delivery process and mostly relates to symbolic exchange, for example, employees' rude interaction with customer (Tsai et al., 2014). In outcome failure, problem takes place due to firms do not fulfill basic service need or perform the core service. As in reality, service failure is inevitable (Hart et al., 1989); therefore, any types of failure could be happened. Upsetting voice process is set up to invite complaint for all types of failure.

Fourthly, upsetting voice also provides customers the medium for any suggestions for service provider. The dissatisfied customers may or may not specify recovery method for themselves; but they can give suggestion for the better service.

Lastly, the current study anticipates customers to appreciate a timely and effortless process of upsetting voice. As abovementioned, upsetting voice is organized for any types of service failure and complaint. Additionally, it is committed and promises to recover customers' problems. Hence, it should be able to show more sincerity (Ligas, 2004) to improve service quality than did recovery voice.

THEORETICAL BACKGROUND AND HYPOTHESES

Upsetting voice and Perceived Justice

As far as customers' evaluation of service recovery is concerned, service providers keep developing the recovery strategies which could bring about the greater recovery outcomes. An evaluation of service recovery results is generally made through three dimensions of customers' perception of justice.

Procedural Justice

Procedural justice refers to the perceived fairness of recovery process (Michael Ashton McCollough, 1995). del Río-Lanza, Vázquez-Casielles, and Díaz-Martín (2009) suggested five criteria of process which considerably contribute to fair procedure. The first characteristic is accessibility of process; this involves the "ease of engaging a process". Second, speed, it referred to "perceived amount of time taken to complete procedure". Third, process control, this characteristic represents "freedom to communicate views on decision process". Fourth, speed, this engages "perceived amount of time taken to complete procedure". And fifth, flexibility refers to "adaptability of procedures to reflect individual circumstances".

With consideration of those characteristics of perceived fairness of process, the marketers attempt to deliver many service recovery methods that could encompass more characteristics. For example, permitting customer to play role in designing the recovery methods could bring about process control perception, because customers can involve in recovery decision process. Employing the concept of service co-creation, Dong et al. (2008) introduced "customer participation in service recovery" to examine its effect on customers' evaluation of service recovery. They defined customer participation in service recovery as "the degree to which the customer is involved in taking actions to respond to a service failure". The findings revealed that when customers participate in service recovery process in self-service technology contexts, they tend to report higher level of evaluation of service recovery.

Regarding qualification of upsetting voice concept, it holds some criteria of process control by allowing customer to give feedback in service transaction, participate in identifying service recovery strategies and give opinion to improve firms' service quality. Moreover, upsetting voice process has

characteristic of flexibility; because it is adaptable to individual-customer circumstance. And as upsetting voice is set up as the firms' policy, the concept is supported by Goodwin and Ross (1990)'s study which documented that consumers perceive the firm treat them more fairly when they assume the employee follow the firms' procedure rather than the employee's own decision. Taking the above basis together, this makes it plausible to propose the following hypotheses.

H1 :Upsetting voice process positively affects customers' perception of procedural justice :
Comparing with self-complainer, invited complainer who was invited by service provider to complain will post higher perceived procedural justice.

Distributive Justice

Perceived distributive justice is the representative of the fairness of received compensation or recovery outcomes comparing with customer costs (Michael Ashton McCollough, 1995). it comprises of three elements including equity, equality and need (Tax et al., 1998). Equity is defined as "provision of outcomes proportional to inputs to an exchange". Equality is "equal outcomes regardless of contributions to an exchange". And need refers to "outcome based on requirements regardless of contributions" (Tax et al., 1998, p. 63)

In general, service recovery techniques which are significantly impacted perceived distributive justice are commonly classified as tangible and intangible compensation. Tangible compensation maybe in form of discount (S. Bambauer-Sachse & L. Rabeson, 2015; Smith et al., 1999; Wirtz & Mattila, 2004), gift (S. Bambauer-Sachse & L. E. Rabeson, 2015), credit for future purchase (S. Bambauer-Sachse & L. Rabeson, 2015), money refund (S. Bambauer-Sachse & L. Rabeson, 2015; Gelbrich, Gähke, & Grégoire, 2015), replacement (Chung-Herrera, Gonzalez, & Hoffman, 2010), etc. Whereas intangible compensation refers to firms' explanation of service failure which comprising of excuse, justification, referential and apology (Bies, 1987).

The elements of distributive justice are appropriate in upsetting voice process setting, whereby customers can ask for explanation of service failure and can also identify required recovery from service provider. In summary, upsetting voice process should influence individual perception of distributive justice. Hence, the next hypothesis is formulated:

H2 :Upsetting voice process positively affects customers' perception of distributive justice :
Comparing with self-complainer, invited complainer who was invited by service provider to complain will post higher perceived distributive justice.

Interactional Justice

Interactional justice involves manners and interactions in which service provider interact with customer during service recovery (McColl-Kennedy & Sparks, 2003). Tax et al. (1998) proposed five elements of interactional justice which include causal account, honesty, politeness, effort and empathy. According to McColl-Kennedy, Daus, and Sparks (2003)'s study, when service providers show concern and give customer voice with appropriate compensation, customer reports more positive attitudes. On the other hand, this finding would be summarized that service provider's concern and opportunity to voice given to customer represent service provider's responsibility (causal account), effort to resolve problem and empathy for customers' distress (McColl-Kennedy & Sparks, 2003).

With regards to those elements of interactional justice, all of them deal with whether customer positively perceives the firm's interaction. Given that upsetting voice process is set up to ensure if the unsatisfied customers have voice and their problems are solved. Therefore, the process should be able to communicate the firms' effort to resolve problem and empathy for unsatisfied customer. Next hypothesis summarizes the possible effects of upsetting voice process on perceived interactional justice:

H3 :Upsetting voice process positively affects customers' perception of Interactional justice : Comparing with self-complainer, invited complainer who was invited by service provider to complain will post higher perceived interactional justice.

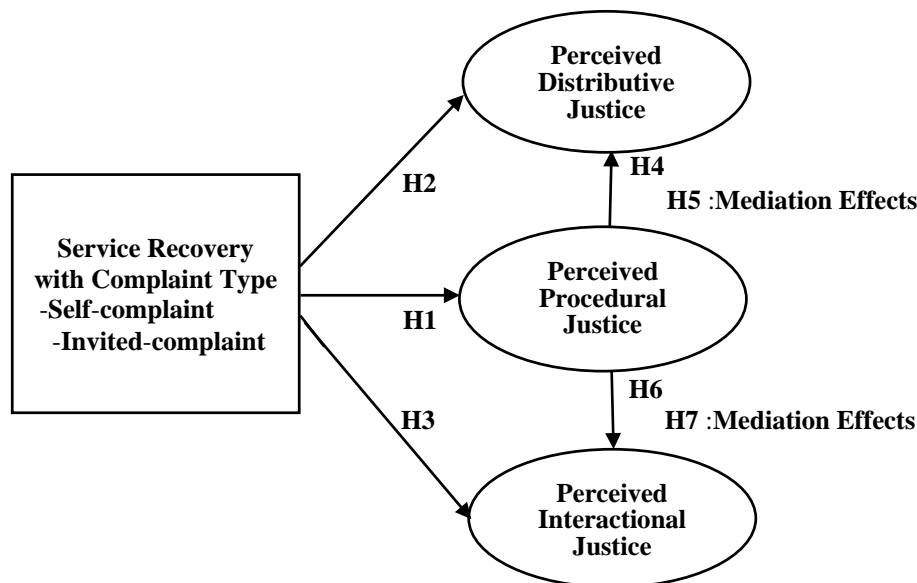


Figure 1. Conceptual Framework of Upsetting voice Process Effects

The causal effect between dimensions of perceived justice

Prasongsukarn and Patterson (2012) have placed focus on the temporal and causal sequence service recovery process which can be explained that the process always takes place before the final outcomes. That is, customers are forced to go through the process of organization. Thus, perceived procedural and interactional justice which involve with recovery process should precede perceived distributive justice which involves with the recovery outcomes. Their assumptions are backed by Mohr and Bitner (1995), Blodgett, Hill, and Tax (1997) which identified the impact of customer perceptions of the employees effort during the service encounter. Their study reported that the positive perceptions of effort mitigated negative core service outcomes.

With consideration of upsetting voice concept, customers will go through the process provided by the firm before reach to service recovery outcome. Building on previous studies, it is expected that perceived procedural justice will influence distributive justice.

H4 :Perceived procedural justice have positive impact on customers' evaluation of distributive justice.

H5 :Perceived procedural justice mediates the relationship between upsetting voice and perceived distributive justice.

Likewise, with consideration of sequence of upsetting voice process, as organizational policy, when the consumers perceive that the employee follow the firm policy, they will be more satisfy with the employee's interaction than if they perceive that the employee make decision. Therefore, the next hypotheses are formed.

H6 :Perceived procedural justice have positive impact on customers' evaluation of interactional justice.

H7: Perceived procedural justice mediates the relationship between upsetting voice and perceived interactional justice.

PROPOSED METHOD

Design, Research Setting and Data Collection

To test the hypotheses, this study uses scenario-based experiment, between-subject design, to compare the effects of upsetting voice and non-upsetting voice on justice dimensions. The participants read the scenario and respond accordingly. The scenario-based approach is consistent with the previous studies in service recovery (e.g., Blodgett et al., 1997; Evanschitzky et al., 2011; Karande et al., 2007; Smith et al., 1999; Voorhees et al., 2006). Bitner, Booms, and Tetreault (1990) suggested that scenario method is suitable for variables manipulation and control. The current study develops scenario using the steps from previous studies as guidelines (Dong et al., 2008). Financial service context is chosen for this study, the scenario was developed through focus group interviews of bank customers to achieve reality, frequency and similar experiences of service failure and service recovery.

Service sector for this study is financial service industry. Financial service industry is commonly used in service recovery and service failure study (Chebat & Slusarczyk, 2005; Gerrard & Cunningham, 2004; Harris, Grewal, Mohr, & Bernhardt, 2006; Maxham & Netemeyer, 2002). One of the most important reason for choosing financial service industry is its vulnerable to service failure (Chebat & Slusarczyk, 2005).

Measurement Variables and Treatments

Upsetting voice

The instruction on the questionnaire asks participants to read the scenario and imagine the scenario happen to them. Then, they are asked to rate degree (0 – 10) of satisfaction of service transaction. Respondents with 0 (no satisfaction) and 1-5 (low satisfaction) degree of satisfaction are asked if they will make complaint with service provider. Respondents who do not intent to voice complaint with service provider will be enrolled to upsetting voice process. Those who intent to complain with service provider are allowed to do so.

In upsetting voice process, the staff politely asks customers to suggest the dissatisfying issues which cause the low or no satisfaction score. After that, the scenario assumed that the respondents identify service failure event that consistent with the scenario. The scenario continues to service provider recovers the failure issues suggested by non-complained customer. Then respondents evaluate three dimensions of perceived justice and corporate images.

Perceived Justice

Perceived procedural justice was measured using seven items. Six items were adapted from (Karande et al., 2007) which have excluded the irrelevant item of “time taken”. Then one excluded item is brought back since it is relevant in this study. Distributive justice was measured with four items adapted from Maxham and Netemeyer (2002). Interactional Justice’s four measurement items were also adapted from (Maxham & Netemeyer, 2002). All justice items were measured on seven-point “strongly disagree–strongly agree” scales.

Data Collection

The respondents of this study were graduated students of National Institute of Development Administration (NIDA) business school. The data collection was made in classroom setting. The subjects were greeted and introduced the objectives and instructions of experiment. Thereafter, the subjects were randomly assigned to two conditions (upsetting voice and non-upsetting voice) and answer the questions from a structured instrument.

Manipulation Check

The manipulation of upsetting voice following service failure was checked to ensure the intended effects. The check was made by asking whether the customers were invited by employee to voice complaint for service failure.

DISCUSSION AND CONCLUSION

Theoretical Contribution

Researchers have been suggesting service organization to urge dissatisfied customer to directly voice instead of voicing in other forms. The past research has examined the role of customer voice in initiating service recovery methods, for example, recovery voice (Karande et al., 2007), customer participation in service recovery (e.g. Dong et al., 2008; Roggeveen et al., 2012). Recovery voice is the process inviting dissatisfied customer to specify service recovery they desire. Study of recovery voice mainly focused on perceived procedural justice and found the positive effect of recovery voice on perceived procedural justice. On the other hand, study of customer participation or co-creation in service recovery focused on how permitting customers to participate in designing and delivering service recovery could yield more satisfaction. The study reported that, receiving a participating role, customers are more likely to be satisfied with service recovery.

This study contributes to the theory by proposing and illuminating the role of upsetting voice on all dimensions of perceived justice. Upsetting voice not only cares about allowing customers to design or to participate in designing their own recovery methods, but also cares about how worry, angry, dissatisfied, etc. they are. Therefore, upsetting voice can communicate more service providers' empathy. Furthermore, the process expresses more sincerity and commitment of service provider in attempting to improve service quality.

Managerial Implication

Financial service industry itself is susceptible to service failure. The good complaint management strategies can help managers to stop bad mounting and maintain relationship with customers. To implement upsetting voice process for service failure, the manager must recognize that (1) the frontline employee must be trained to handle emotional customers carefully and seriously. (2) The organization must ensure that they can understand and deliver what customer want. (3) The dissatisfied customer who provides upsetting voice may have high expectation for service recovery; therefore, service recovery process is as important as upsetting voice process.

An implementation of upsetting voice will facilitate the organization with a bunch of customer voice. In the long run, this information will benefit organization by providing some insights about its services. Therefore, the managers should also give priority on information system for future data analysis.

Direction for Future Research

Upsetting voice concept has been firstly tested in the current study. This therefore leaves some critical issues for further investigation. First, the purpose of upsetting voice is to alter non-direct-voice to be direct-voice customers. This is vital that upsetting voice should be able to prevent dissatisfied customers from voicing in other forms. Hence, the future research should examine the influence of upsetting voice on negative word of mouth and third party complaint.

Second, this research mainly focuses on establishing the concept of upsetting voice. The constructs initially tested in this study were dimensions of perceived justice. And even though it is well established in service recovery context that service recovery effect is mediated to psychological (e.g. consumer satisfaction, loyalty) and behavioral (e.g. repurchasing, word of mouth) outcomes, it is reasonable to ensure this mediation effect on relationship between upsetting voice and those psychological and behavioral outcomes.

Third, as aforementioned about concept of recovery voice and co-creation, comparing with upsetting voice, all three concepts can be ranked by degree of participation in designing service recovery. Therefore, comparing the effects of different degree of participation should be the outline for future research.

Fourth and last, research in service recovery paradox reported the conflicting results. Some report the existence whereas some report the inexistence of the paradox. Still, some researchers suggested that

service recovery paradox exists in some situations. It is worthwhile to examine the possibility of service recovery paradox as the effect of upsetting voice.

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THE POWER OF COLOR IN MEANING CONSTRUCTION OF JAVANESE, BATAK AND CHINESE DESCENT ETHNIC

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ABSTRACT

Various consumer products circulating in malls and supermarkets found in red and yellow dominant despite having historically traumatic. Questions about the power of color arose and are approached with the perspective of Peter L. Berger constructivist theory and the theory of semiotics Pierce and Roland Barthes. With a qualitative methodological approach in the tradition of phenomenology authors found that the power of color in Javanese, Batak and Chinese are determined to a large extent of belief of supernatural powers on ethnic. Expression liberation of the color aesthetic value is specified by market hegemony

Keywords: mystical dominance, hegemony color, color traumatic, market hegemony

INTRODUCTION

In the perspective of marketing, communication strategy is crucial to be closer to the target market segments. Because communication is essentially the building communess between source and receiver, various forms of symbol construction created by humans with a variety of media are always sought by the source of the message so as to be easily understood by the recipient. Communication in antiquity also uses the sign and also the complex behavior and behaviors that are still primitive. Communication is now growing rapidly and able to go beyond factual consciousness to imaginary consciousness with sophisticated technology. Through that technology the various forces trying to build public opinion in their favor, so there is an adigium "Who mastered communication, he rules the world".

Various expressions can be actualized through communications media, including color expression. In many ways the color is not only as an aesthetic accessory even be a myth that must be present in every ceremonial. Both in mythical past cultural traditions and myths in ceremonial tradition today. Traditional myths of the past always attach color on mystical symbols. Currently the colors are not only building an aesthetic value but also building mythological subjects color on a particular subject. Such as red and yellow on the tradition of Javanese, Batak and Chinese mythical magical symbols within the meaning of their traditions, as well as a new tradition of pink on Valentine's Day ritual. The color symbolism is a process of construction purposes which cannot be separated from the power of social factors.

Construction on the meaning of the symbol will not be able to escape the effects of how people run their lives. Everyone is formed by what they experienced and they felt. It all formed through their culture and traditions. Every culture and tradition has a way or different lifestyle so that the meaning and perception formation also been affected by these factors. Each tribe has its own perspective on the meaning of a symbol.

Color as a symbol, is something abstract, symbolize the blending of color, distinguishing features that can be used for various things according to desired needs. Red and yellow are the most prominent color which are often shown in consumer products, not only at the Japanese products but also are Korean products. Even at culturally Javanese products that have previously classic brown as its dominant color. Besides, red and yellow in ethnic culture has a strong magical value. Red and yellow have a traumatic historical politics in Indonesia.

Each culture has its own perception in creating their allegiance to a color. It was clear on the difference in the perception of the Javanese, Batak and Chinese. All those ethnic have long cultural background and clear cultural history in the meaning of a symbol that creates a difference in perception of those ethnic groups. This is influenced by how they interact with their different cultural backgrounds.

Research Problems

Based on the background of the above problems, authors are trying to understand more about the use of red and yellow which appear frequently in national products through the following research questions:

1. How hegemony red and yellow are traditionally mastered Javanese, Chinese and Batak culture.
2. How red and yellow in Marketing have power to influence the perception of the aesthetic and mystical on consumer awareness in view of the product.

Research Purposes

1. Understanding the meaning of the red and yellow traditionally and how strong those colors dominate the perceptions of Javanese, Batak, and Chinese ethnic.
2. Understanding the hegemony of red and yellow in the concept of marketing in terms of aesthetic perception and mystical mastery on all three ethnic research subjects.

LITERATURE REVIEW

Theory Perspective

In business world, especially in the field of marketing, where the concept proposed by Potter 4P (Product, Price, Place and Promotion) widely applied, as well as increasingly sophisticated communications technology, the promotion of marketing elements to be very aware of. Promotions that are elements of the marketing mix by the concept of marketing communication where communication is no longer seen as a linear process but rather circular and terintegratif. Dahlen, Lange, and Smith found more marketing communications to the coherence of purpose and strategic direction among elements of the promotional mix (Dahlen, 2010). Thus promotional marketing concept cannot simply rely on Price and product quality. Some of marketing communications concepts are more focused on efforts to build a symbol of how the products, through branding, establish distinctive character of font, logo, endoser or the power of color.

Post-modernist thinking associated to communication technologies has changed the paradigm that emphasizes functional structural dominance of the facts, to the hegemony of knowledge. Thought to be an emphasis on product quality and price becomes the dominant variable in the structural-functional concept that shifts to the symbolization verbalistic hegemony. It became a demand that cannot be avoided when media communication is becoming increasingly sophisticated. New Media with its technology is able to present the reality of the imaginary into factual reality. Production and reproduction in the concept of post-modernist experiencing a very quick process so that in the context of style, functional style structuralism have lost its essence, changing the aesthetic style that accompanies it.

Aesthetics idea in the concept of post-modernism became prominent in symbol that accompany the object. Aesthetics become more important in providing a symbol on the object. Therefore, the aesthetic imagination war in a simulation space in marketing concept become very sharp. Market control through hegemony art in the post-modernist culture form the fore. The concept of intertextual, hiperreality deconstruction and deconstruction always take a role in evolving communication reality. It is in line with the communication technology development that accompanies it.

The object offered in marketing has been wrapped with the power of artistic and make symbolic meaning for its users. Product selection is no longer oriented toward use-value but the value in use because the object can determine the status, prestige and particular symbol for the user. Baudrillard sees it as the formation of social differences and naturalize it through the differences in the level of semiotic or sign (Baudrillard, 1981).

So consumption in the concept of the consumer through engineering aesthetic can reproduce the value of consumption into production processes desire to give naturalization symbols distinguishing in semiotics level. The process of reproduction desire is an unconscious process that elevates the primordial sentiment. Consumption will arouse memories subconscious which becomes a past pleasure. Deleuza & Guattari (1972) saw consumption is a substitution or replacement of the lost pleasures that is stored under conscious (Pilliang, 1999).

The process of dyeing in packaging of consumer products can be a reproduction of the natural values that want to raise primordial awareness to foster consumption desire on the consumer. Various packaging and shades dominate many consumer products which are milling in the center of the shopping center. Colors that appear in the malls in Jakarta for final consumption end products are extremely dominance in Red and Yellow. Red and yellow are always identical to the color of oriental nowadays is no longer dominated by Chinese products. Many European and Japanese food use red and yellow.

Colors are not just appear out of a vacuum chamber, but the construction process of externalization which was built in the environmental awareness of its creator. Ongoing Objectivation process of color aesthetic value strengthen the formation colors mythological which is bend to the subject. Black for example, for a sign of mourning, pink for the affection is the hegemony of the aesthetic value through color objectivation on one's mindset. Similarly, the color in the packaging of consumer products is the result of the reproductive process to master the aesthetic desires of consumers.

Color Definition and Its Effect Against a Person's Mood

Expression of mood can be radiated through the color selection. Color is the most prominent element in the process of marketing for the design of a product can be attractive when framed with attractive packaging as well. Wahana (2007) explains that color is the most important element in graphic design. Color can be an indicator differentiator between one object to another. Color has its own suggestion impact on certain cultures and also has a psychological effect.

According to Sunyanto (2004), color is a very strong graphic elements, provocative elements of four colors, not just black and white, will increase the effectiveness and the cost of advertising. Color is also an element of the most prominent design element has color variations that are not restricted.

Color in relation to influence the views, feelings, emotions or moods exerted great influence. The process of color selection is not only able to strengthen a character, but to influence one's feelings or mood. The concept of color selection is not easy to do. One factor, such as a different cultural background in looking at the color, should also be considered because the color has many associations that can reveal the nature and character of different colors in the electoral process.

Association and Color Psychology

Associations and color psychology of each person is different. Color concept in the mind of someone pointed out that every person may not be able to interpret the same color with the same perception as well. Dameria (2007) states that a person has understood since childhood with color associations. White synonymous with jasmine flowers, red is synonymous with pomegranates. We do not realize that each person has specific experience in associating a color. Someone who had traumatic experiences with blood will associate red is synonymous with blood and pain. While others associate the color red with a rose ever given by her boyfriend.

Cultural and psychological background for the perception of colors indicates that the color is not something that takes for granted, but it is a process of construction that was built through the externalization boosted through objectivation process. So that the impression or perception of color can be shaped and changed from the old to the new connotations, from old myths to new ones.

Color shades of the community will give the impression of an aesthetic that is able to arouse consumer desire, when color is attached to the object of consumption. Some colors have different

aesthetic impression will have implications on the nuances of different objects. The red color in general for the Indonesian people have the impression of patriotic, uplifting, so the feel of it will appear in one's personal impression. However, the red color also has the feel of a traumatic Chinese communism with the red forces. Hegemony impression on the red shades so far started to shift when various red symbol is more frequent in humanist object as in consumer products.

METHODOLOGY

In this study the authors used a qualitative approach in the subjectivist paradigm. This method is typical of the human sciences, and many of them such as the analysis of narrative and genre analysis, has been developed for the study of literature. Approach to the interpretation derived from the study of literature and hermeneutica, and interests with critical evaluation of the text (Stokes, 2007).

Authors put it in comparative qualitative research because we wanted to examine and look for similarities and differences in a color authorization phenomenon in consumer products (a study of the power of products packaging color in determining buying decisions).

Strategy and Research Approach

This study uses a constructivist approach in the tradition of phenomenology. The research strategy in this research is a case study focusing on interpretif paradigm for seeking basic social and transcendental consciousness in constructing color reality on consumer products that is descriptive, naturalistic, cultural and holistic. We categorize into a descriptive study focused on finding the facts in a social phenomenon that creates meaning and perception to gain an understanding of the research.

Information Sources

Information sources of this research are data related to the research and direct information will be obtained from the locus of research. The research subject is the source of the information which are collected by authors based on information provided by a variety of ethnic backgrounds Chinese, Batak and Javanese. We use snowball sampling for Information retrieval process. There are 6 informants and 3 key informants.

Data Sources

Determination of data source in this study compliance to the research method used that is qualitative. Authors use *Multiple source of data* of Creswell and diverse data sources from data obtained through data collection techniques such as data from interviews, observations and documents (public document or private document) as well as audio and visual.

Interpretation and Data Analysis

Data obtained from the data collection process will then be interpreted by using *Interactive Analysis Data technique* of Miles and Huberman, that is data reduction, data presentation and verification or conclusion.

RESULT

In this study, authors see that power of color on the three ethnic groups in Indonesia: Javanese, Batak and Chinese. The selection of the three ethnic groups is based on the dominance of red and yellow in their culture. Second, the existence of supernatural values inherent in red and yellow in their traditional cultures. The third is the strong primordial ties that exist in all three ethnic groups. Lastly, is the presence of dominance and hegemony of red and yellow on all three ethnic groups which are suffered crushing significance because of the trauma history in Indonesia.

The Power of Color Values in Javanese Culture

Javanese are the largest ethnic in Indonesia which has a cultural influence in the lives of Indonesian people. Even in the New Order javanisation process is very pronounced and thick in national policy. So commonly found in various corners of the city in Indonesia their accentuation of Javanese culture. The Javanese are very influenced by the culture produced by the Mataraman culture centered on the

Yogyakarta palace and Surakarta Sultanate. Colors in the context of Javanese culture has a supernatural value associated with religious values.

Red for Javanese is the symbol of blood and brown sugar. Red symbolizes the blood that smeared from newborns in the world. The birth of children showed prosperity and the blood is a symbol of the struggle for prosperity. Red is also denoted by the symbol in Javanese puppet face, to show the character of grumpy, like Dasamuka, Ravana, Cakil. In ancient Javanese before Islam entered, as well as the existence of human level is still strong, the red color symbolizes the knight.

Red in Javanese culture has meaning bound in the transcendental value of the mystical force that follows. Red values inherent in the concept of imaginary community of Java is on the value of chivalry. The concept of courage struggle to build a Javanese society myth, resulting in uplifting struggle always denoted in red. The national flag is heavily influenced by Javanese culture, contributes chivalry in red.

Similarly, yellow in the context of traditional Javanese culture is always associated with mystical values which constructs color awareness of Java community. Yellow is the dominant color to represent the symbol of feminism and prosperity in the text of Java. Yellow is always symbolized in the face of the puppet to describe the softness and prosperity so that a golden yellow to be displayed in knight Pendawa wives. As in Arimbi, Drupadi, Srikandi.

Red and yellow in the tradition of Javanese culture is always attached to the mystical power of constructing meaning in it. That power can still be found in the rituals of Javanese culture. It is still strong and regulates the behavior of people, especially the rural communities affected by the strong currents of palace.

The Power of Color Values in Batak Culture

Batak is one of strong ethnic which is still maintaining its primordial bond through clan. There are several traditional ceremonies that are used to maintain the purity of their clan. In a miraculous ritual dominance of black, white and red are always coloring.

In Batak (Toba), the composition of the color will have meaning when it is in the proper range of the pyramid. Red is at the bottom of the pyramid, then white and black at the top. Red spectrum has a very strong and always symbolizes courage, strength and even insolence which in Javanese culture it is symbolized in the puppet facial expressions.

In Batak, the three colors represent Debata Natolu (three gods). The three gods have mystical meaning. Red represents the cosmic gods Bala Bulan who is in charge of keeping and maintaining life. That's why Bala Bulan has the power to build or destroy human life. Even Bala Bulan has the authority to punish people. After receiving the punishment, it is expected that people repent.

Golden yellow does not exist in the cosmic divinity such as red, white and black. However, golden yellow decorate a variety of ornaments and custom clothing that symbolizes prosperity.

The Power of Color Values in Chinese Culture

Chinese are ethnic descent from China mainland who have lived and grown hundreds years ago. They have been assimilated with the locals. Incomplete assimilation forms a separate ethnic community. However, this wave of migration of Chinese people has never stopped. Especially today, when relations between two countries have been opened without suspicion and increasingly advanced technology, prompted the search of family networks to the home country is more viscous.

Red is one important element of the five elements of color that form the basis of life and philosophical outlook of the Chinese ethnic in Indonesia. Red is the second element after black and in accordance with fire. Red symbolizes good luck and joy. Either ancient or modern Chinese society, they highly appreciate red.

Red is considered as a package of good luck. Red is the color that is prohibited in the cemetery, because red is a symbol of happiness. They believe that the Nian or a giant will be angry and red is deemed unable to dispel that creature.

In addition to red, the color of the other sacred present is yellow which is regarded as the most beautiful color. 'Yellow generates Yin and Yang', according to an ancient Chinese proverb. That means that yellow is the center of all things. Yellow signifies neutrality and luck. Yellow is often paired red instead of gold. Yellow is the color of the Chinese Empire. This color is often decorated the royal palaces, altars and temples as well as use in robes and clothes of the emperor.

Viewed from the meaning of red and yellow in their traditional culture, despite having a different meaning on the same color, but all putting color on the meaning of cosmik mystical space. All colors are always linked in the sense of the supernatural believed to organize their lives. Color psychology is actually universal and commonly found in traditional communities. Even in many cultural literacy outside Indonesia, we often find the same meaning. What distinguishes it is the legitimacy or certain sources underlying the birth of that belief. In the past, the sources are always associated with spiritual things.

Traumatic Power of Color in Indonesia History

Colors in politics in Indonesia once gave a powerful symbol. Red always describes the ideology of 'left'. Color Green and White describe the ideology of "right". The results of the 1955 election of the four parties dominate the political scene Indonesia. The acquisition is the first PNI (Indonesian Nationalist Party) based Nationalists with flags in red with a picture Bull colors Black. The second, Partai Nahaatul Ulama (PNU) based on Islam with a green flag and symbol of white colored globe. Then the Communist Party of Indonesia (PKI) with the red flag with the symbol of Sickle Hammers Black color. Furthermore Masyumi with Green color flag with a white crescent moon symbol.

Dichotomous ideology of right and left with a very strong stigma color coloring community construction at that time. When this dichotomy more pointed and gave birth to a political uproar, prejudice and genocide always comes from the color stigmatization. When beginning the 1965 revolution where the Sukarno regime (old order) is overthrown, then the communist movement suspected of building the people's army and called the red army that is identical to the People's Republic of Tjina communism.

When Communism collapsed with the entry of the military in Indonesian politics, it discredits through agitation and propaganda about the mass killings by the Red Army (PKI) is very strong. Fear systematically built on the PKI that is identical to the color red. Even the dominant red Chinese culture did not dare to appear in public. Chinese names should be replaced with the name of Indonesia. So red is synonymous with the Red Army and the symbol PRC (People's Republic Tjina) into a scary color. Intricate menacing shades even kidnapping and murder flared up into a national issue.

As soon as the fall of the Old Order and replaced by New Order in which the political scene was in the master of Army by forming underbow organization called the Functional Group (Golkar) that has the symbol of a yellow flag, the symbol of the banyan pictures, cotton green and black rice. Golkar moved systematically, made yellowization and forced all civil servants to get in Golkar. Intimidate the rest of the nationalists and socialists to enter Golkar if not to be labeled Communists. Their economic and political access was inhibited. So that the color of yellow is very haunting people in politics.

They generally do a ritual that uses red symbol furtively. Even the temple submerge the usual red dominant color stand out in the temple. The colors seem dim protrusion covered by yellow and black. While Batak and Java where the red is not dominant then there was no red in the color removal of indigenous traditions. However traumatic red color remains deeply embedded within them.

Those in the 50's generation felt traumatic with Yellow and red. During the 32 years of the New Order government, government forced to follow the Golkar party symbolized by yellow, continued to imprison the Indonesian people. Yellowization continued even in Central Java all protected trees on the roadside was yellow paint. All these research informants who are in the period of 1950 to 1970 birth trauma fears over the strength of the yellow color that is synonymous with Golkar.

Trauma color symbolism pressure in that both period got a release when the reform was able to subvert the new order through street demonstrations. Democratization, freedom of expression can be channeled and can be actualized. Even excessively that any horizontal conflicts often occur. However, the more color expression is protected. Symbolizing the colors began to fade and the stigmatization of color began to disappear. The temple began to show its true identity.

Red and Yellow Internalization

Since the reform, various Chinese traditional celebration tasted actualization freedom. This condition continues to appear until now. Red and yellow phenomenon that previously only existed when the celebration of the traditional Chinese customs, and then penetrated into the shopping center which is dominated businessman Chinese descent, making the red color is always present in their store ornaments. All Chinese informants always believe that yellow and red are happiness that produces prosperity. They still believe in strong magical bond of color that is always displayed in the packaging products and accessories on their business.

Shopping center in North Jakarta as Emperium Pluit Plaza, Gading Mall and several malls in Jakarta, the shade of red and yellow always appear in their custom dimensions. Red and yellow are no longer symbol of the party and not on the value of the negative stigmatization traumatic. Red and yellow become the ornament of beauty, especially for those generations to upper 80s. Informants from this study do not feel color traumatic.

Color indirectly benefit and reflects our existence to convey that there is and will always be the best. It is seen from informant's understanding. The color internalization of the phenomenon reality above was determined by environmental factors which determine what kind of dementia that color has.

DISCUSSION

Color conception of this study indicates that the color traditionally has been constructed by an external force through mystical power of the lives of all three ethnic groups. Supernatural powers embodied in the power of the King became their objectivation place. Red and yellow that are always used by the King, become a reference and internalizing the meaning of these colors. When the magical power fades due to their other magical powers, namely the emergence of religion coming from the Middle East, Islam and Christianity, magical significance attached to red and yellow also fade. It is quite different with Chinese who got traumatic stronger political pressure to execute the cultural traditions, the magical values in color is still relatively strong.

In the era of reform or the era of liberation of expression, Chinese people feel a space to express magical value attached to red in any business activities that they do. Red and Yellow become very dominant in business, dominate the Chinese descent marketing system. 16 years after the reform has changed the aesthetic view of red and yellow on all three ethnics. They have better understanding that color is as an aesthetic value than the magical value. This resulted in the stigmatization of color to disappear and become hegemonic aesthetics in Marketing.

When we view from the conception of semiotic Barthes appears that one's understanding about color will be determined by all three cultural backgrounds. This is in line with the concept of Berger's externalization that all the connotations on the color is determined by knowledge of the realities faced. Javanese, Batak and Chinese descent saw red as a color of scary because experiencing the same trauma. Similarly, the yellow, is a color that cannot be denied. So the connotation of cultural value is no longer capable of being authorized on the connotation when traumatic period. Objectivation occur

singly, that is the power of the current color. No color meaning distinction of the ethnic, despite they have a different cultural context.

Similarly, when there was traumatic liberation of the power of color from the power of government (dominant), and turning to the power of market. When the market is dominated by Chinese descent in which Red and Yellow have mystical value, then the color shades dominate the market space. For Javanese and Batak, red and yellow also have mystical value in their culture, so that the color gets objectivation in the market space.

These conditions make various products using artistic accents on the colors. Artistic value continues to be built in the power of the colors. This condition gets space to the presence of consumer products from the United States and Japan. They are using the dominant values in red and yellow, like Mc D, Hanamasa, Hoka hoka Bento, create the aesthetic value of red and yellow.

CONCLUSSION

The conclusions of the research are:

1. There is a difference in value of red and yellow on the cultural context among Javanese, Batak and Chinese descent. Nevertheless they put cultural values on those colors on the strength of supernatural or mystical values.
2. Mystical value strongly influence more on the value of Red and Yellow in Chinese. Because this ethnic during the New Order era experiencing strong pressure to be able to express color in public space.
3. Red and Yellow in the new order became a traumatic color which is able to construct frightening stigmatization in Javanese, Batak and Chinese because of the domination of power.
4. The market dominance by Chinese descent who have strong magical value in red and yellow and is supported by consumption market of America and Japan, create the space as a space objectivation aesthetic value in the red and yellow colors for consumer products.
5. Color domination of both power and market will determine the aesthetic value of the color in the community.

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ENTREPRENEUR, FORM OF OWNERSHIP AND ECONOMIC GROWTH: IMPLICATIONS FROM THAI HISTORY

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ABSTRACT

In this paper, the aim is to investigate the relationship between finance and economic growth through the form of ownership of entrepreneur in Thailand. By using three episodes from Thai history as case studies, empirical evidences revealed the form of ownership effect the development of entrepreneurship and economic growth.

1. INTRODUCTION

Over fifty years ago, Gerschenkron (1962) argued that economic backward countries needed bank as a source of fund to develop their industrial sector in order to upgrade economic development status. According to his idea, those countries that industrialized first such as Britain could take an advantage from entrepreneur's innovation to gain market control on their products and finances. Those who came late with more backward status needed different route. At least, they needed the visible hand from banks and if it was not enough, then the hand from government was needed to catch up with the formers. Pre-World War I in Japan and Germany illustrated the relationship between corporate finance and economic growth as they stand as the key examples of once backward countries that grew at high speed through bank-centered finance.

The debate over bank debt or equity finance better fit to explain development is too far to conclude. For many scholars¹, Gerschenkron hypothesis explained Japan's economic growth straightforwardly. They argued that the development of modern banking system strongly provide not only necessary capital but the entrepreneur guidance to rapidly growing industrial firms. In countries where securities market was lacking or started business behind banking, banking connections were a special important as main source of funds for modern industry. It was easier and cheaper for firms to raised funds through banks rather than by obtaining funds directly through the sale of equities to individual savers. In house or so-called main banks did seem to have controlled corporate finance and the zaibatsu conglomerates did seem to have guidance (controlled) over entrepreneurs/firms through banks. Hence, for the common understanding among many scholars, zaibatsu is a phenomenon for the group/family to start their own bank for purpose of funding activities for their own firms. As a matter of fact, each zaibatsu had a bank which acted as a money pump to channel deposits from public. However, in contrast Miwa & Ramseyer (2002) argued that Japan was not a bank-centered economy, but based on empirical data during the first half of the last century Japanese firms relied on equity-financed instead. By using the relationship between firm's performance and source of funds as a model to test, they founded in the contrary to the prior common understandings that zaibatsu affiliated firms with easy access to banks earned no advantage or outperformed their rivals.

In this paper, the aim is to investigate the relationship between finance and economic growth through the form of ownership of entrepreneur in Thailand. By using selected three episodes from Thai history as case studies, empirical evidences revealed the form of ownership effect the development of entrepreneurship and economic growth.

2. ENTREPRENEUR AND FORM OF OWNERSHIP: FRAMEWORK FOR ANALYSIS

2.1 The Legal Form of Ownership

Form of ownership in Thailand can be classified into three types of business regarding to their ownership, namely, sole proprietorships, partnerships and limited companies. This specific kind of ownerships exists and prevails in many countries. Partnership is a very loosely form of ownership,

¹ For example, Yamamura (1974), Lockwood (1954) or recently Aoki & Kim(1995)

after sole proprietorship, which needs at least two persons in order to do business and needs no registration of association if they do not want to limited their liabilities. On the contrary, limited companies must file a memorandum of association and must register the company as either private or public company. Therefore, legal personality is the effect when they have registered either partnership or limited companies. If they issue stocks to general public this legal personality became public limited company or issue stocks to specific person then they become closed or private limited company.

Why do we need this complex legal form of ownerships? Why a simple sole proprietorship cannot do business? The answer lies in the separation function between legal person (management/agent) and shareholders (principal). Sole proprietorship cannot separate these two functions, but the more complex form of ownership such as partnership or limited companies can. Legal person is not a natural person but can conduct legal actions such as own properties or sign contracts on behalf of other shareholders. It is totally inconvenient to do business by all shareholders individually. On the contrary, it is convenient for all stakeholders such as employees, suppliers, customers, lenders and others to contact with legal person and make the business organization among them to ensure efficient operation. Sole proprietorship normally has will, has personal matters and can die. If legal personality is used instead, these problems can be solved since legal person has no will, no person matter and no possibility to die. Decision of legal person is made through a certain formal procedure which shareholders can participate. Hence, main function of shareholders is to give direction of business to legal person. Shareholders usually do not have a power to make a decision regarding the business operation directly, but they have a power to force executives to change the business organization through the appointment of new directors. When business became obsolete or harmful to society, there are shareholders who have power and incentives to monitor and intervene the operation of business. Thus, only restricted rights of corporate governance are conferred to shareholders function.

2.2 Entrepreneur, Sources of Fund and Form of Ownership

The very basic form of ownership that facilitates entrepreneur to do business is sole proprietorship. However, multi proprietorships through joint stock such as limited companies have been seen as indispensable to economic growth since they foster capital pooling, risk sharing and governance better than sole proprietor². Joint stock form facilitated access to external source of direct finance together with limited in liability that mitigated downside risk. In Meiji period (1868-1912), policy to promote joint stock form came from the belief³ that they would facilitate large-scale capital intensive enterprise, which was considered to be crucial factor for catch-up industrialization.

Forms in prewar Japan did not grow through bank finance. Access to bank credit did not give firms a competitive advantage. And contrary to the conventional wisdom (or under Gerschenkron's hypothesis . . . author), the large corporate groups (the zaibatsu) did not use their affiliated banks to favor their manufacturing firms. In pre-World War II Japan firms grew instead by raising money on decentralized, competitive capital markets. Miwa & Ramseyer (2002, p. 128).

3. IMPLICATIONS FROM THAI HISTORY: SELECTED THREE CASE STUDIES

3.1 The Modernization period in the Chulalongkorn Reformation

Between Siam (Thailand) and Japan before 1868, the development status initially shared the similarities as they were isolation Asia nations from western developed countries contact. Coincidentally or not, Siam took the modernization at the same time under King Chulalongkorn period (1868-1910) and also Japan under the Emperor Meiji period (1868-1912).

² Nicolas (2014) or Frankl (1999)

³ Eiichi Shibusawa (1840-1931) a prominent Meiji reformer stated that "To make the nation truly prosperous, we must enrich the country; to enrich the country, we must make scientific progress and help commerce and industry thrive; to help commerce and industry thrive, we must establish joint stock corporation organizations."

Since the first date of legal person has been introduced by law in 1912, the form of ownerships from 1912-2015 illustrated in table 1, the number of active entities have been changed from partnership to private limited company with the stock of registered capital in the last row. Unlimited partnership was clearly not a favorite form of ownership since the number from 1912-2000 was reduced from 4,496 to 1,619 firms in 2010. The stock of total active firms left here is about half of total registered legal persons (about 1.2 m. firms) since 1912. That means Thailand has lost about half of firms in number or about THB. 4.29 mm. (19.77-15.48) in registered capital since 1912.

Since the first bank has been introduced in 1888⁴, the stock exchange in 1975 and legal person was legalized in 1912, sole proprietorship should be a form of ownership for entrepreneurs in Thailand during the modernization period (1868-1910).

Although major tradable goods such as rice were grown by Thais, but most of them limit their role in production. The lack of local entrepreneur in Thailand after the Chulalongkorn reformation implied that the outsiders/foreign Chinese entrepreneurs gradually became a local family-owned business. Since then, it could be said that high percentage of private partnership or limited companies are owned or controlled by one family or by families that are related by blood or marriage⁵. By law, family owned limited companies are joint stock/ multi proprietorships firm, but the majority are managed by the same family or group of families which more likely to be sole proprietorship rather than multi proprietorships. Non-family members rarely reach the management position.

Under this form ownership, it often prefers to borrow from banks rather than bringing in a new partner with its own resources either in capital or technology in order to preserve family ownership from dilution. Ownership pattern like this tend to be far more on kinship by blood or family relationship and far less on the effort, skills and expertise of non-family individuals either alone or together. Hence, it is hard to achieve technology transfer from outsiders either foreigners or even locals under this ownership pattern.

3.2 The Foreign Direct Investment after Plaza Accord

As an evidence of reversal from the past, at this time law is often used as a tool to protect local business from foreign ownership and free market competition. There are many examples of law that preserve local commercial hegemony and limit foreign commercial access such as the Foreign Business Act⁶ which restricts foreign participation in 43 name business activities or foreigners are prohibited from obtaining work permits in a lengthy list of 39 occupations.

However, the major disruption occurred in 1985 after the Plaza accord has been concluded. The rise in Yen against USD fueled the influx of Japanese investors. At this time, the relocation of production base as flow of foreign direct investment from Japan increased especially in industry sector such as electric appliances and machinery & transport, as shown in table 2 and 3, and increased growth as shown in figure 1. Under the promotion investment law, the Board of Investment has power to grant privileges to foreign businesses subject to BoI requirements and supervisions. One of them is transfer of technology to local partners. Since Thai law simply determined foreign firm by the majority of foreign shareholders more than 50% of total while the majority in voting rights had not been considered. Registered firms in Thailand might be Thai's nationality firms due to majority in local

⁴ The Central Bank of Western India was recorded as the first foreign bank in Japan that opened its branch in treaty port Yokohama in 1863 for buying and selling bill of exchange with foreign firms. Thailand also followed this pattern. In 1888 Hong Kong and Shanghai Bank was the first with other foreign banks which had set up branches in Bangkok. Since trade finance commonly conduct by foreign money at that time in form of silver/gold coins rather than baht (or yen) paper money, all foreign banking business such as buy and issue drafts, letters of credit and issue local paper money for their clients' payments were conduct independently from local savings. Thai bank was first in business after 1888.

⁵ Classens et.al.(2000) or Suehiro & Wailersak (2004)

⁶ It was introduced in 1972 as an executive order and has been revised in 1999 as an act.

shareholders, but actually foreign firms due to majority of foreign voting rights instead. To circumvent the limit of foreign access and get to promotion privileges from BoI, foreign firms often hide their majority of voting rights under preferred shares or nominee shareholders or holding companies so that they become local firm by minority of foreign shareholders. As a matter of record, the total stocks by registered capital THB. 15.48 mm. could be officially divided as foreign owned firms about THB. 2.10 mm. (16% of total) and Thai registered firms THB. 13.38 mm. (86% of total). However, there was a high possibility of the under-recorded foreign owned firms and over-recorded Thai registered firms.

High growth period came together with more foreign direct investment from Japan and heavy reliance on foreign trade as foreign sector account for almost second half of GDP in 1980s. However, technology transfer did not come along with high rise in direct investment in joint stocks companies as expected and did not lead Thailand to compete to the world business arena on its own merits. Under the local family-ownership pattern and loosely definition of foreign owned firms, Thailand could not reap the benefits from skills, expertise, experience and technology from the form of ownership such as limited companies that foreign companies brought with them to improve its own competitiveness in the long term instead of short term profits.

3.3 Corporate Finance in Era of Equity Finance

Initial public offering performs a crucial role as another source of capital. Typical Thai companies which mainly owned, managed, and controlled by individuals/families and/or their partners go public when they believe that they could grow faster with external financing. However, the degree of information asymmetry, which depended on the form of ownership, among participants should be higher relatively in underdeveloped capital markets. Therefore, the form of ownership may play a crucial role in firm performance.

The Stock Exchange of Thailand (SET) was established in 1975. The first year of operation there were just 21 listed companies with total turnover around 0.5 billion baht. To be a public limited company is the necessary condition in order to register as listed company in SET after the Public Limited Company Act 1992 was introduced. However, private newly issue stocks were not worked as equity finance to raise funds as expected as shown in figure 3 and 4. On the contrary, most of firms either private or public limited companies still used indirect finance such as borrowing channel from banks in order to get funds as shown in figure 2. As a consequence, public limited companies listed in stock exchange tend to borrow from banks rather than take advantage from listed companies issue newly stocks or bonds to public. As evidence, banks finance still dominated in source of funds to Thai economic system as ratio of loan to GDP was about 7-14 % which was higher than newly issue stocks and debts to GDP as shown in figure 2 compared with figure 3. However, there was an empirical evidence that 133 Thai firms that went public during 1987-1993 according to Kim et.al. (2004) lowered the use of bank debt after going public.

Among the ten longest survival local businesses in table 4, most of them have started their business in either private partnership or private family owned business. Exemption was Siam Cement which started with private limited company and then went public in order to raise fund while the rest, at present, were private limited companies without any partners. The Asian crisis in 1997 highlighted the importance of good corporate governance for the long term survival of companies. If the corporate governance is related to the form of ownership such as the concentration of ownership, then weak corporate governance should play more or less to these difficulties. Chancharat et al. (2013) examined empirically the failure and survival of 166 IPO firms that went public in Thailand from 1992-2007. All were tracked until the end of 2009 to identify the status of these companies. They found that the failure or survival of these IPO companies were not affected by board size, board independence, dual leadership, concentration of ownership or company characteristics such as age or total assets with high predictive accuracy. On the other hand, Kim et al. (2004) also studied on the IPO companies in Thailand on the different period, but they focused mainly on an exploration of managerial ownership and company's performance. Their findings revealed that firms with "low" (0-31%) and "high" (71-100%) level of ownership experienced positive relationships with better firm

performance. Alternatively, the “intermediate” (31-71%) ownership ranges is negatively related with firm performance.

The latest episode was Thaksin Shinawatra’s business. He has tried so hard to hide from public for his family controlled in Shin Corp. which was a holding company in controlled of two other concessionaire companies, Thaicom (satellite business) and Advance Information Service (the number one in market share of mobile telephone company business). All of these three were listed companies. If all were private companies and used bank finance, then, there would not be the case against him.

In sum, corporate finance in Thailand from 1975 shows the mix and complex picture between equity based and bank based finance. When typical family based Thai companies grew bigger, form of ownership might be a cause of difficulties for the choice of corporate finance. If they decide goes public, public disclosure and asymmetric information are the main problems to be solved. If they don’t, then, equity finance is not in favor of family owned business.

4. CONCLUSION

According to the implications from Thai history, form of ownership may be said to be an obstruction rather than supporting factor to the development in entrepreneur and growth. In the modernization period, form of ownership was sole proprietor in majority and used to support Chinese entrepreneurs rather than Thais. As economy gradually developed, most of the Chinese entrepreneurs became local family owned partnership and then companies. In the period of relocation of Japanese production base, the existed form of ownership such as joint stock companies did not provide any supports for the technology transfer and capital accumulation since foreign firms could disguised as local firm due to the weak in foreign firm definition and loosely law enforcement. In the era of equity finance, choice of corporate finance was limited by the form of ownership. In the economy where the separation between management and ownership is not clear, going public or as a private limited company does not make any different. Then Thai family owned limited companies could disguise as a public limited company and went public. To go public using other shareholders’ money for its owned benefits is a consequence from the lack of public disclosure and asymmetric information. If the concentration of ownership can be disguised, then corporate governance must be in bad shape. It is not an easy task to raise funds through either equity or bank based finance.

Table 1

Form of Ownership in Thailand 1912-2015 (unit: number of firms)

	Total	Private limited companies	Partnerships	Public limited companies
1912-2000	421,627	231,976	189,010	641
2001	433,077	237,241	195,198	638
2005	505,724	280,245	224,652	827
2010	542,490	340,034	200,560	896
2015	617,504	438,278	178,116	1,110
Registered capital (in mm.THB.)	15.48	10.03	0.62	4.80

Source. Department of Business Development, Ministry of Commerce

Table 2
Export and Import of Thailand

(% of GDP)	1950	1960	1970	1980/1985	1990/1996	2000	2010	2013
Export	18.6	17.5	15.0	24.1/23.2	34.1/39.3	66.8	71.3	73.6
Import	13.3	18.9	19.4	30.4/25.9	41.7/45.5	58.1	63.9	70.3
Current account	5.3	-1.4	-4.4	-5.9/-2.7	-7.6/-6.2	8.7	7.4	3.3
Export+Import	31.9	36.4	34.4	54.5/49.1	75.8/84.8	124.9	135.2	143.9

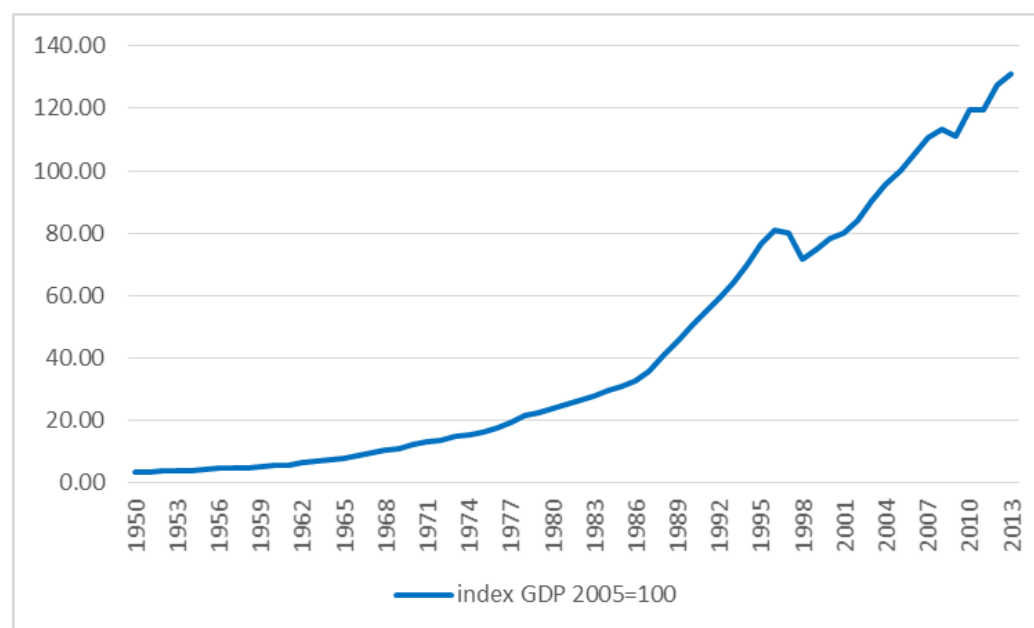
Source. IMF statistics

Table 3
Share of Net Foreign Direct Investment from Japan classified by sector

% of total	1971-74	1975-79	1980-84	1985-89	1990-95
Trade	27.6	17.0	24.1	10.2	12.8
Construction	5.5	13.1	36.5	15.9	11.7
Industries, of which	49.8	50.4	33.6	56.3	68.8
• Textiles	22.9	29.0	7.6	0.1	0.1
• Electric Appliances	4.5	2.0	9.5	29.0	29.4
• Machinery & Transport	1.41	4.1	4.2	4.4	9.5
Services	2.9	9.5	0.8	11.6	4.9

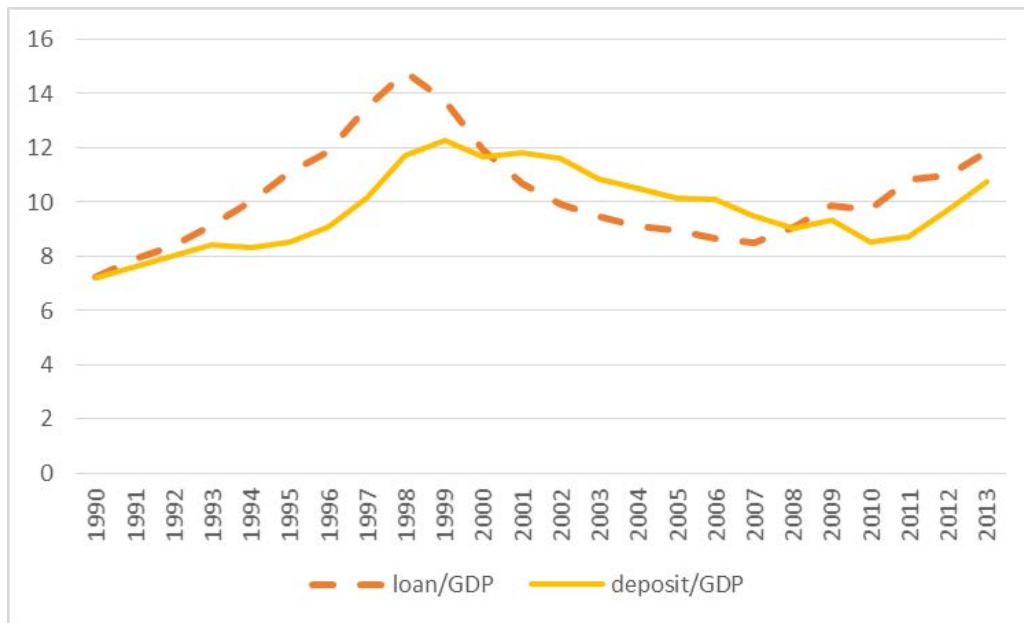
Source. Board of Investment statistics

Figure 1. GDP index (2005=100).



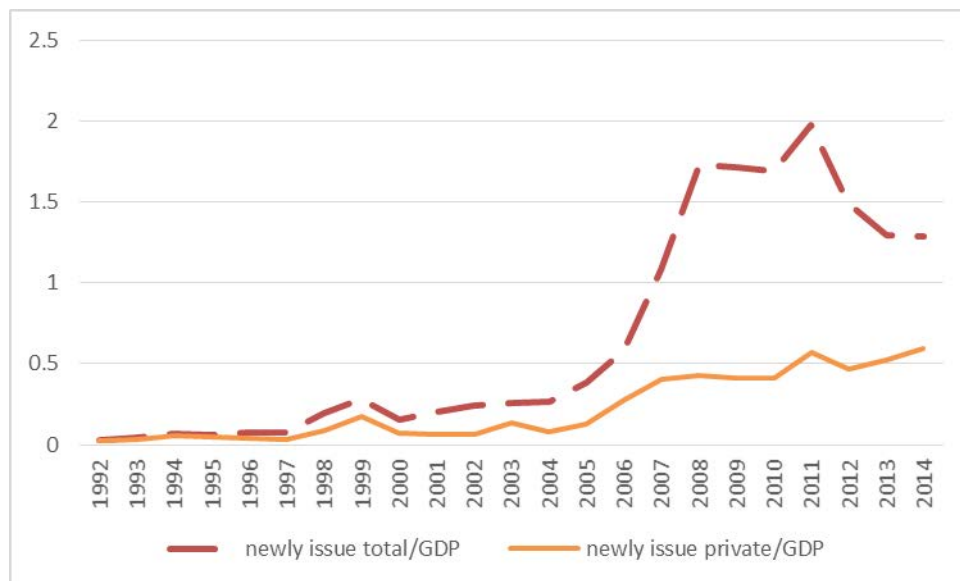
Source. IMF statistics

Figure 2. Banks Loan and Deposit to GDP.



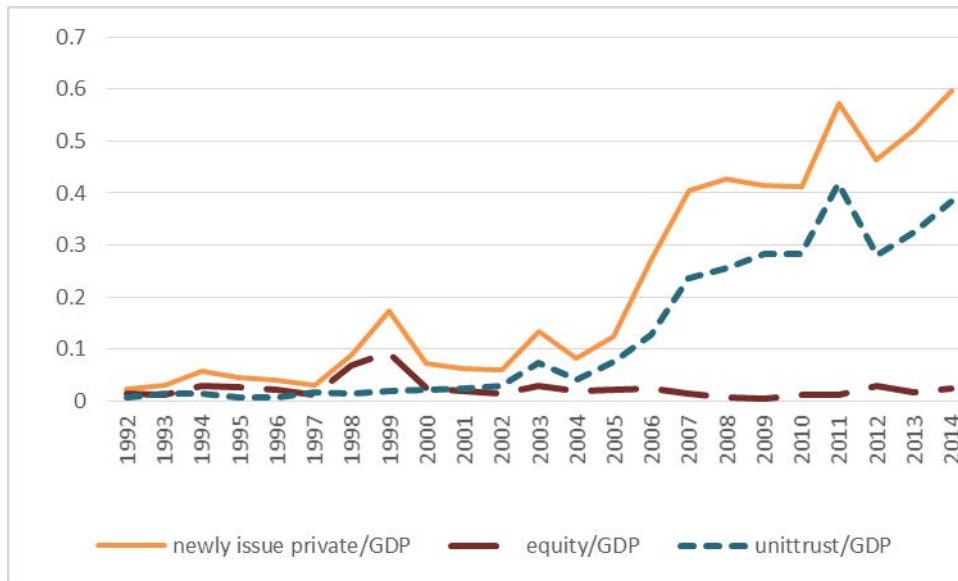
Source. Bank of Thailand statistics

Figure 3. Newly Issue Debt and/or Equity as Ratio to GDP.



Source. Bank of Thailand statistics

Figure 4. Newly Issue Debt and/or Equity in Private Sector



Source. Bank of Thailand statistics

Table 4
Selected Businesses and Form of Ownership

Name of Business/Product	Established date	Product category	Form of Ownership	Founder/ Chinese Related	Product Images
Boonmee Dispensary	1898	Drugs/Dr. Mee Snuff	partnership	Mr. Mee Kasemsuwan/ No	
Siam Cement	1913	cement	Joint stocks company	King Mongkut/No	
Nampla Tipparos	1913	Food/Tipparos Fish sauce	unknown	Tang Laichiang/Yes	
Visetniyom Factory	1901	Drugs/Tradition Tooth Powder	partnership	Mrs. Pin Chaemvicha/No	
MaikietfaiThai Co.ltd.	1900	match	Joint Stock Company	unknown	
Boonrowd Brewery Co.Ltd.	1930	beer	Joint Stock Company	Mr.Boonrowd Sertabutra/No	
Ya-om 5-Takab	1935	drugs	unknown	Lim Juisai/Yes	
Sanga Mayura Pent brush	1936	Pent brush	unknown	Mr. Sanga Mayura/No	
Gold Cup Balm	1942	drugs	unknown	Mr. Yotin Leelarussamee / Yes	
British Dispensary	1928	drugs	unknown	Dr. Luan Wongwanich/ Yes	
Double Goose Underware	1953	underware	Joint Stock Company	Mr. Jua Thanasarnsom bat/Yes	

Note. (1) selected businesses according to the longest date of establishment and survival to present date, origin could not identify (2) Chinese related criteria based on the founder
Source. Author

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ENTREPRENEURIAL INTENT METRICS

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ABSTRACT

Two research questions are presented in this paper “whether the current literature for entrepreneurship studies is adequate for entrepreneurship research in Asia? Whether gender differences exist in entrepreneurial intent?” These issues are important to stakeholders because a discovery of a gap in the literature would provide impetus for future research in entrepreneurship. Secondly, knowledge of gender differences in risk perception has practical utility for risk assessment in project funding. eBusiness was used as proxy to evaluate the explanatory factors in the literature. Primary data used in this research came from 91 written surveys collected from Thai and non-Thai university students in Thailand. The dependent variable is entrepreneurial intent. The independent variable include: personality traits, social environment, desire to own business and eBusiness infrastructure. Quantitative method was employed to assess the model in Confirmatory Factor Analysis (CFA). There are gender differences in entrepreneurial intent. Female nascent entrepreneurs require social environment and eBusiness infrastructure as requisites for entrepreneurial intent. The male counterpart requires only eBusiness infrastructure to motivate entrepreneurial intent. A combined gender model showed that entrepreneurial intent depends on social environment, desire to own business and eBusiness infrastructure with significant interaction effect: $x_2x_3 = 2.42$ ($T = -9.19$), $x_2x_4 = 1.60$ ($T = -5.48$), and $x_3x_4 = 2.12$ ($T = 14.96$). Personality traits are not relevant ($T = 0.93$). These significant interactive effects are evidence of missing explanatory factors in the current literature. We found empirical evidence proving that the current conceptual framework in entrepreneurship research is inadequate to explain the entrepreneurship in Asia. This paper uncovered new explanatory factors and filling the gap in the literature, this research is a contribution to the field. ANOVA testing shows that the current literature in entrepreneurship research is western-based and is not useful for entrepreneurship studies in Asia: $F = 0.03$.

Keywords: ANOVA, eBusiness, entrepreneurship, interaction effect

1. INTRODUCTION

The purpose of this paper is to study entrepreneurial intent formation among university students. For comparative studies, students from two faculties were selected: entrepreneurship Faculty and Market Faculty. University students had been used for entrepreneurship studies (Lüthje & Franke, 2003). The population is a mixed of Thai and non-Thai university students of both genders. Genders difference in entrepreneurial intent is part of the research issue in this paper (Wagner, 2007; Wilson et al., 2007). It has been shown that intent affects future performance among entrepreneurs (Lumpkin & Dess, 1996).

The research question presented by this paper are (i) whether there exists significant gender differences in entrepreneurial intent, and (ii) whether western-based literature in entrepreneurship research is adequate for non-western countries? To answer the first question, 48 males and 43 females were selected. The sample was later separated according to Thai and Non-Thai nationality in order to verify the perception of explanatory factors of entrepreneurial intent (Frank & Lüthje, 2004; Jenkins & Johnson, 1997).

The research issues presented in this paper are of interests to stakeholders because they have practical and academic values. Empirical evidence about gender difference in entrepreneurial intent points to risk perception and attitude towards risk according to gender (Wagner, 2007; Wilson et al., 2007). This issue allows stakeholders to better plan, develop, and deal with entrepreneurship and entrepreneurs. Secondly, the discovering of cultural-based difference in perception among Thai and non-Thai on the issue of entrepreneurial intent has academic value because it verifies that western-based literature may not be applicable to non-Western population. This second contribution is

consistent with literature in the field that cultural factor may be indicative of entrepreneurial intent (Mitchell, Smith, Seawright, & Morse, 2000; Muller & Thomas, 2001).

The dependent variable (Y) is entrepreneurial intent. The independent variables are personality traits (X1), social environment (X2), desire to own business (X3) and eBusiness infrastructure (X4). In this research, eBusiness was used as a proxy for entrepreneurial enterprise.

2. LITERATURE REVIEW

This research employed written survey. The surveys were collected from a single field collection in order to determine entrepreneurial intent. According to the literature, entrepreneurial intent may be formed over time (Gartner et al., 1994). Therefore, a single survey may lack the longitudinal tracking. For instance, the survey of this study may not disclose future entrepreneurs who would be a successful entrepreneur that would form the intent to become one at a later time (Lee & Wong, 2004). However, today's intent may be an indicator of future prospect in become entrepreneurs (Kolvereid, 1996). Under the Planned Behavior Theory, intention is a best predictor of future behavior (Ajzen, 1991, 2001). For this reason, entrepreneurial intention is a good proxy for the dependent variable even by a one-time survey.

There is a line of literature claiming that personality traits explain entrepreneurial intent (Brandstätter, 1997; Crant, 1996; Kets de Vries, 1977; Korunka et al., 2003). There is a long line of studies examining personality traits as a determining factor for entrepreneurship. Some writers summarized the results of these claims under meta-analysis methodology (Zhao & Seibert, 2006). In this research, personality traits were used as a collective component of the first independent variable (X1).

Situational factors influence entrepreneurial intentions (Ajzen, 1987; Boyd & Vozikis, 1994; Tubbs & Ekeberg, 1991). Therefore, social environment is used as one of the independent variables (X2). The literature provides that self-employment is evidence entrepreneurial intention (Kolvereid, 1996). The desire to own business is used as a third indicator (X3). External factor may influence one's future behavior (Krueger, 1993). For this reason, the eBusiness infrastructure as an environmental conducive to entrepreneurship was used an explanatory factor (X4).

In addition to the four explicit explanatory factors described by the literature, we also employed the demographic factor as possible predictive indicator of entrepreneurial intent. In so doing, we also aware that demographic characteristics had been used to differentiate entrepreneurs from non-entrepreneurs (Gartner, 1989; Robinson et al., 1991). Demographic characteristics had been criticized for having poor predictive power (Reynolds, 1997) or low explanatory power (Baron, 1998; Vecianna et al., 2005). There is no single model to explain entrepreneurial intent (Krueger et al., 2000).

3. DATA & METHODOLOGY

3.1 Sample Size determination

Primary data was used in this research. Written questionnaires were used as instrument to collect quantitative data. The scale used in the response space was non-Likert. We argue that Likert scale is unreliable because it has too many choices and a non-zero scale inflates the value of the findings. The scale used in this research was (0,1,2,3) where 0 = none, 1 = small, 2 = medium and 3 = high. The reliability of the scale was tested by:

$$\hat{R} = \left(\frac{k + \left(0.5 \ln \left[\frac{(1+k)}{(1-k)} \right] + Z^* \sqrt{1/(n-3)} \right)}{2} \right) - \frac{df(\alpha)}{e} \quad (1)$$

where $k = \sqrt{1 - df(\alpha)}$, α = error level, $Z^* = 1.65$ for 0.95 confidence interval of a two-tailed test, and $e = 2.718$ or Euler's constant. For a (0,1,2,3) scale, the reliability index is 0.9447 compared to 0.8664 for Likert scale (1,2,3,4,5). Using 0.95 CI standard, (0,1,2,3) scale is more reliable.

The minimum sample requirement for this research was calculated by:

$$n = \frac{Z^2 \sigma^2}{SE^2} \quad (2)$$

where $SE = \sigma / \sqrt{n}$. We randomly selected 30 test sample to determine minimum sample size. The result showed that the required sample size was 81. In this research, 91 surveys were collected. The sample was then tested for data distribution.

3.2 Data Distribution Test

The data distribution is generally verified by using normal distribution as the referenced distribution. Normality test generally is accomplished by the Anderson-Darling test.

$$AD = n - S^* \quad (3)$$

where $S^* = \sum \left(\frac{2k-1}{n} \right) [\ln F(Z) + \ln(1-F(Z))]$. The observed value is compared to the theoretical value. The theoretical AD is given by:

$$AD^* = AD \left(1 + \frac{0.75}{n} + \frac{2.25}{n^2} \right) \quad (4)$$

However, the AD test is biased in favor of finding normality in the data distribution. To address this inadequacy in data distribution test, in this paper we adopted the definition of normal distribution as the standard. A normally distributed data set has skewness of zero and kurtosis no larger than 3.

Skewness is given by:

$$G_1 = \left[\frac{n}{(n-1)(n-2)} \right] \sum_{i=1}^n \left(\frac{X_i - \bar{X}}{S} \right)^3 \quad (5)$$

Kurtosis is given by:

$$G_2 = \left(\left[\frac{n(n+1)}{(n-1)(n-2)(n-3)} \right] \sum_{i=1}^n \left(\frac{X_i - \bar{X}}{S} \right)^4 \right) \cdot \frac{3(n-1)^2}{(n-2)(n-3)} \quad (6)$$

Table 1
Skewness and Kurtosis Testing

Variable	Skewness		Kurtosis*	
Y = Entrepreneurial intent	(0.91)	0.00	3.12	3.34
X1 = Personality traits	(0.47)	0.00	2.95	3.34
X2 = Social environment	(0.42)	0.00	3.47	3.34
X3 = Desire to own business	(0.54)	0.00	2.43	3.34
X4 = eBusiness infrastructure	(0.99)	0.00	4.13	3.34

*The general reference value for kurtosis is 3.0. The adjusted kurtosis value is 3.34.

3.3 Modeling under Regression Analysis

Multiple explanatory factors analysis is generally modeled under multiple regression. Two tiers multiple regression modeling was employed in this research. First, conventional multiple regression was proposed:

$$Y = b_0 + b_1x_1 + b_2x_2 + error \quad (7)$$

Model efficacy under (7) was tested under ANOVA. The ANOVA test employed was:

$$F = \frac{MSR}{MSE} \quad (8)$$

where $MSR = \frac{SSR}{p} = \frac{\sum(\hat{Y} - \bar{Y})^2}{p}$, and $MSE = \frac{SSE}{n-p-1} = \frac{\sum(Y - \hat{Y})^2}{n-p-1}$.

Secondly, multiple regression model with interaction effect was also used to verify the existence of possible latent effect and to uncover potential new explanatory factors. Multiple regression model accommodated by the interaction term is provided as:

$$Y = b_0 + b_1x_1 + b_2x_2 + b_3x_1x_2 + error \quad (9)$$

where $b_3x_1x_2$ is the interaction term. The interaction effect coefficient is determined by:

$$b_3 = \hat{b} - b_1 - b_2 - b_0 \quad (10)$$

where $\hat{b} = \bar{Y} - (b_2 + b_0) - b_1$. The test statistics for the interactive effect is given by:

$$T_{x_1x_2} = \frac{b_1 - b_2}{\sqrt{\frac{n_1SE_1^2 + n_2SE_2^2}{n_1 + n_2 - 1}}} \quad (11)$$

4. FINDINGS & DISCUSSION

4.1 Combined Model for THAI Subjects

The entire sample under multiple regression model showed that personality traits was not a significant factor in explaining entrepreneurial intent. "Personality traits" had been innate factor commonly cited in entrepreneurial literature. However, this research the result of the general model is: $Y = -0.91 + 0.51X_2 + 0.25X_3 + 0.66X_4$. Personality traits (X1) was not significant ($T = 0.94$) and, thus, was dropped from the model.

The finding shows that entrepreneurial intent depends on social environment (X2), desire to own business or nascent entrepreneurship (X3) and eBusiness infrastructure (X4). The negative intercept of -0.91 suggests that without contributing factors, university students would not engage in entrepreneurial enterprises in eBusiness. The finding implies that entrepreneurs are "made" not "born." This finding is in conflict with western-based literature which claims that entrepreneurship requires certain personality traits. This claim is not support by our empirical evidence.

Among the combined sample, we examined gender differences in the entrepreneurial intent. There were 43 females and 48 males in the sample of 91 people. We found that the entrepreneurial intention

of *male* subjects is formed with less condition: $Y_{male} = -0.05 + 0.99X_4$ with a significance level of $T = 4.80$, where as the model for female subjects is more complex: $Y_{female} = -0.25 + 0.58X_2 + 0.54X_3 + 0.54X_4$. These findings suggest that male is more risk affine because no other conditions are required for entrepreneurial intention beyond eBusiness infrastructure. Female subjects, on the other hand, require three factors in order to form entrepreneurial intent. ANOVA test of female subjects shows the F value less than the theoretical value of $F = 1.35$. Despite differences in their motivating factors of entrepreneurial intent, male and female subjects share two commonality: negative Y-intercept and X4. Negative intercept suggests that there is no pre-existing entrepreneurial intent. If entrepreneurial intent is an indicator for risk affinity, negative Y-intercept suggests that both males and females in our population are risk averse.

In the combined population, we also measured the interaction effect among the independent variables. We found that there are significant interaction effects among x_2x_3 , x_2x_4 and x_3x_4 . Interaction effect measures unobserved indicators. In practice, the finding of significant interaction means that explicit explanatory factors needs to be defined, and that by not defining them, there is a gap in the literature. The discovery of the interaction effect by this paper indicates that the current western-based literature has limitation. These findings are contribution to the field because it laid a new direction to forge a new frontier in entrepreneurship research for non-western countries. Whether the difference is due to cultural factor, this issue is beyond the scope of this paper (Mitchell et al., 2000; Muller et al., 2001).

Table 2
Interaction Effects Measurement

Interaction Effect Variables Pairs	Parameter Coefficient $b_{3x_i x_j}$	Significance Level $T \leq 1.64$
X_2X_3	2.42	9.19
X_2X_4	1.60	(5.48)
X_3X_4	2.12	(14.96)

4.2 Entrepreneurial Intent and Thai Subjects in Mixed Faculties

The target population is a mixed of Thai and non-Thai university students enrolled in Entrepreneurship and Marketing majors. We separated the sample into Thai and non-Thai, and by major of studies subgroups in order to uncover differences within the group.

For Thai nationals of mixed faculties in the sample, the resulting model was: $Y = 0.04 + 0.61X_2 + 0.45X_4$. The correlation coefficient showed $R^2 = 0.42$ which suggests that the CFA from the western-based literature has incomplete explanatory factors. For the Thai potential entrepreneurs, entrepreneurial intent demands on social environment (X2) and eBusiness infrastructure (X4). Without these facilitating factors, the level of entrepreneurial intent is 0.04 or the Y-intercept.

4.3 THAI Subjects Separated by Faculty

We examined student subjects by their faculty. Two faculties were used in this research, namely entrepreneurship and marketing majors. For entrepreneurship faculty, the predictive model was: $Y = 1.10 + 0.66X_2$ with statistical reading of $T = 4.28$ and $R^2 = 0.55$. The number of parameters in the model indicates risk tolerance. The more parameters requires for entrepreneurial intent, the more risk averse the model indicated. In the present case, entrepreneurship students appears to be risk affine, which is consistent with the character of entrepreneurs or risk takers.

In contrast, student from marketing faculty showed a predictive model for entrepreneurial intent as: $Y = -0.17 + 0.52X_2 + 0.58X_4$ with statistical reading of $R^2 = 0.43$ and failed under ANOVA test ($F = 0.0013$). The presence of X_2 and X_4 in the model indicates that these students are risk averse and without these two facilitating factors, students from marketing majors would not engage in any entrepreneurial enterprise because the Y-intercept is -0.17.

4.4 Combined Model for NON-THAI Subjects in Mixed Faculties

The non-Thai subpopulation was examined separately. The findings showed that the predictive model for the non-Thai group in combined majors was: $Y = -0.74 + 0.85X_1 + 0.63X_4$ and an insignificant ANOVA of $F = 0.05$. Our speculation about the difference in western-based literature as not capable of explaining entrepreneurial intent in Thailand resurfaced. Among the non-Thai subgroups, personality traits (X_1) appears as an influencing factor; whereas among Thai students, this innate factor was absent. Both Thai and non-Thai share an explanatory factor: eBusiness infrastructure (X_4).

One implication of this finding points to the fact that there is a difference between Eastern and Western perception of entrepreneurial intent formation. Thus, since the current literature relies heavily on western-base literature, there is a gap in the literature in entrepreneurship research in non-Western context.

4.5 NON-THAI Subjects in Entrepreneurship Major

The non-Thai subpopulation was separated according to faculty of studies. In the entrepreneurship major, no working model was obtained. This may be due to the fact that in the sample, there were only 5 non-Thai majored in entrepreneurship. This sample composition constraint restricted our empirical analysis for this subpopulation group.

4.6 NON-THAI Subjects for Marketing Major

Among the non-Thai marketing students, the predictive function was: $Y = 0.15 + 0.78X_1$ with a statistical reading of $R^2 = 2.19$, but with a limited showing of correlation coefficient of $R^2 = 0.20$. We reaffirmed our finding in the combined section for non-Thai's perception of entrepreneurial intent when X_1 (personality traits) reappeared in non-Thai marketing students. There is a different perception that crosses cultural background on the issue of entrepreneurial intent. Thai students see entrepreneurial intent as a product of environmental inducement. Non-Thai students see entrepreneurial intent as a result of certain personality trait. This different perspective indicates that entrepreneurship studies in Asia should not be based on western-based literature. Western theories implies innate factor as the indicator for entrepreneurship. However, our empirical evidence from Thailand shows that entrepreneurship depends on environmental inducement.

5. CONCLUSION

This paper uncovered a gap in the literature for entrepreneurship research. This gap in the literature is indicated by three interactive effects among the explanatory factors: $x_2x_3 = 2.42$ ($T = -9.19$), $x_2x_4 = 1.60$ ($T = -5.48$), and $x_3x_4 = 2.12$ ($T = 14.96$). Personality traits are not relevant ($T = 0.93$). We confirmed that innate factor, such as personality trait, is not a significant requisite among nascent entrepreneurs in Thailand. These findings are contributions to the field by pointing out future direction for entrepreneurship studies. eBusiness is used as a proxy in this research. We found empirical evidence to support the argument that perception towards eBusiness infrastructure influences entrepreneurial intent among future entrepreneurs. For stakeholders, this findings is important for eBusiness planning, development, targeting.

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THE EFFECTS OF CORPORATE SOCIAL RESPONSIBILITY PROGRAM AND PRODUCT QUALITY ON CUSTOMER LOYALTY WITH THE MODERATING ROLE OF CORPORATE IMAGE. THE CASE OF VINAMILK

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ABSTRACT

The goal of this research is to analyze impacts of CSR program on customer satisfaction and loyalty in Vietnam - a developing country. Moreover, this paper also explores whether the moderating effect of the corporate image on the relationship between customer satisfaction and customer loyalty or not. In order to find out the answer for the research objective, a quantitative method was approached through conducting a survey with 504 respondents. To test the hypothesis, structural equation modeling (SEM) was using to get the final result. The findings of research express a positive effect of CSR program on customer satisfaction and loyalty as well as a positive relationship between customer satisfaction and loyalty. Moreover, moderating role of corporate image is identified in term of deal with customer loyalty.

Keywords: Corporate social responsibility, customer satisfaction, customer loyalty, corporate image

1. INTRODUCTION

Facing a number unethical and illegal activities of the world business, the community's interest in corporate social responsibility (CSR) has been significantly high in both the developed and developing countries. CSR today becomes one of the critical instrument for the firm's balanced and sustainable development (Jamali, 2014; Jamali & Keshishian, 2009). From the beginning of the 21st century, there is a huge shift in the perception of the business world on the issue of CSR, with the continuous increase of customer awareness of CSR, This is one of the factors that influences not just only companies' strategic plans but also customer purchase decisions. In 2014, according to a global survey of Nielsen across 60 countries, 55 percent of online customers are willing to pay more for products and services provided by companies that are committed to positive social and environmental impact. The propensity to buy socially responsible brands is strongest in Asia-Pacific (64%), Latin America (63%) and the Middle East/Africa (63%) (Global consumers are willing to put their money where their heart is when it comes to goods and services from companies committed to social responsibility, 2014).

Along with economic development, the issues of CSR get more interest from companies, governments and even consumers over the world, particularly, in developed countries. However, CSR is still a new concept in a developing country like Vietnam when the profit is still the determining factor for their survival (Mai, 2015). In recent years, many prominent unethical and/or illegal scandals related to CSR and product quality constantly happened in Vietnam (Luu, 2011). Moreover, the successful conclusion of the Trans-Pacific Partnership negotiations (TPP) and the establishment of ASEAN Economic Community (AEC) bring more opportunities as well as significant challenges to Vietnam economy.

In this currently complex context, Vinamilk Dairy Joint Stock Company (Vinamilk) is known as a leading company operating in the interests of the community. Vinamilk was established on August 20, 1976 with just three old regime factories. After 39 years of continuous innovation and development, Vinamilk has become a leader in the field of producing products related to milk in Vietnam market reaching more than 31 countries and generating over USD 1.5 billion/year in revenue (Si, 2013). In 2013, Vinamilk announced its Corporate Social Responsibility Policy. Through this policy, Vinamilk has proposed its commitments of responsibility to stakeholders in relation to five issues that are indicated in the company's sustainable development orientation including human nutrition,

environment and energy, local economic development, employees, and support and community development (Lien, 2013). By analyzing the impact of CSR activities to the success of Vinamilk, this study aims to be a managerial implication for other companies.

2. THEORETICAL BACKGROUND AND HYPOTHESES

A. Corporate Social Responsibility

In 1953, Howard R. Bowen, was known as the “Father of Corporate Social Responsibility”, asserted that social responsibility refers to *the obligations* of businessmen “to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society” (Bowen, 1953). Along the history of the world economy, CSR also was defined in many different forms. In 2002, The World Business Council for Sustainable Development in its publication Making Good Business Sense by Lord Holme and Richard Watts defined CSR “as the *continuing commitment* by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large” (Carroll & Shabana, 2010).

Along with the completion of the definition of CSR, CSR categories has grown up throughout its history. McGuire (1963) argued CSR just include economic and legal factor. Carroll (1991) expanded the categories of CSR by conceptualizing CSR in one of the early models as represented by what is commonly referred to as Carroll’s Pyramid included: Philanthropic, ethical, legal and economic responsibilities.

The 21st Century is the era of CSR with the expansion of CSR both scholar and practical business world. Besides four CSR categories mentioned in Carroll’s research, many other categories of CSR is concerned. With the appearance of many issues of climate change and environmental problems as well as product quality related scandal of large corporation over the world, many studies for consumers concern more in raw materials and production process of the products they consume.

They tend to prefer environmentally sound products and avoid those with environmental downsides during use or disposal (Dunk, 2007; Rahman, 2011). Therefore, environmental distribution and consumer protection were considered as new factors of CSR in the modern economy.

B. Product Quality

In 2012, Kotler and Armstrong defined product quality as “the characteristics of a product or service that bear on its ability to satisfy stated or implied customer needs”. Bowo, Hoyyi and Mukid (2013) identified quality is “a relative measure of a good or service that can give you an idea of how far the level of excellence of a product can meet customer desire. In general, the quality of products is a factor in assessing the company's ability to meet the customer’s expectations to ensure customer satisfaction.

Product quality is always an important factor affecting purchase decisions of consumers. Hence, product quality has been considered as a priority in development strategy of the company. There are many previous studies also shows the same point of view. For example, Flynn argued that quality is a “critical component in the design and manufacture of products which are considered superior to those of competitors” (Dunk, 2007). With improving product quality, companies expect that they can improve their competitive position compared to competitors in the market, from which they can achieve success more easily.

C. The Moderating Effects of Corporate Image

Corporate image is found intensively in marketing and psychological literature. There are many definitions of corporate image. MacInnis and Price (1987) explained the term corporate image as “a procedure by which ideas, feelings, and previous experiences with an organization are stored in memory and transformed into meaning based on stored categories.”

Because corporate image is the first impression of customers about all aspects of a corporation such as quality of products, reputation, stakeholders, etc., a good or bad brand image can be a factor that affects many different elements of business operation. Thus, the attitude of customer will be affected by what they observed through corporate image (Dichter, 1985). Many previous studies have supported for the relationship between brand image and customer behaviors. Corporate image is an initial source to help customer can process information to decide the products and services they need. Corporation's manager used the corporate image as a useful tool in their marketing mix to different their brand with competitors as well as gain competitive advantages in the market. In addition, the corporate image could be a reason for customers to buy products and give positive feelings of customers about the corporate.

Park, Jaworski, and MacInnis (1986) indicated a favorable brand image would encourage for a corporation improve their performance, create competitive advantages, and gain a better position in a market. Nguyen and LeBlanc (1998) proved "a favorite image will lead to loyalty". Therefore, corporates need to be careful and strategic in creating and maintain their corporate image with customers as well as stakeholders. From there, long-term advantages will be established.

D. Customer Satisfaction

Oliver (1997) defined satisfaction as a customer's evaluation of pleasurable fulfillment of some need, desire, or goal. Like perceived consumer values, and customer satisfaction is also taken and viewed by the researchers as a multi-dimensional variable that helps the researchers to evaluate the satisfaction in different contexts and industry.

In marketing literature, researchers made the remarkable debate about the linkage between customer satisfaction and perceived quality and value of the customers. It was claimed by Ravald and Grönroos (1996) that value is directly proportional to the how the customer feels satisfaction with the products/suppliers/organization and that satisfaction is based on value. Another important and distinctive explanation provided by the Zeithaml(1988) about the linkage between customer satisfaction and perceived value is that when consumers think that they received value for their money, then they feel more satisfied as compared to the consumers who did not get the perceived value with their money. In simple words, customer satisfaction is the post-consumption evaluation by the customers based on value, price and perceived quality.

E. Customer Loyalty

Customer loyalty is divided into two main groups: behavioral loyalty and attitudinal loyalty (Kumara & Shah, 2004; Jahanshahi *et al.*, 2011). The behavioral loyalty is defined as customer loyalty were characterized in terms of repurchase intentions, word-of-mouth communication, and recommendations of the organization (Karatepe & Ekiz, 2004). In the other side, attitudinal loyalty is identified as a favorable evaluation (Gensler *et al.*, 2012). Behavioral loyalty is extremely important for business because it reflects the buying trends of consumers, thereby it affects directly on revenue and profit of the company. In contrast, toward attitudinally loyal customers the emphasis is on "willingness" rather than on actual behavior. When customers prefer a company, a brand or item, they would like to purchase from that company than competitors, even if they are willing to pay a higher amount.

In the other research, Kumar and Shah (2004) believed that the loyalty of consumers is based on a set of factors. Trust is the first factor of the set. Producers have to build trust with their customers, possibly through many different aspects such as the quality of products and services; the attitude of the staffs, etc. The second thing is that companies have to build up in your customers' perception that they are providing customers with greater value transactions greater than competitors. Finally, after having built on the two factors above, companies can create a level of positive customer emotional attachment. That emotion will create a sustainable relationship between the customer and the brand of the company that is resistant to change (Jahanshahi *et al.*, 2011).

Extracted from the above literature reviewing, the conceptual model and corresponding hypotheses are constructed as following:

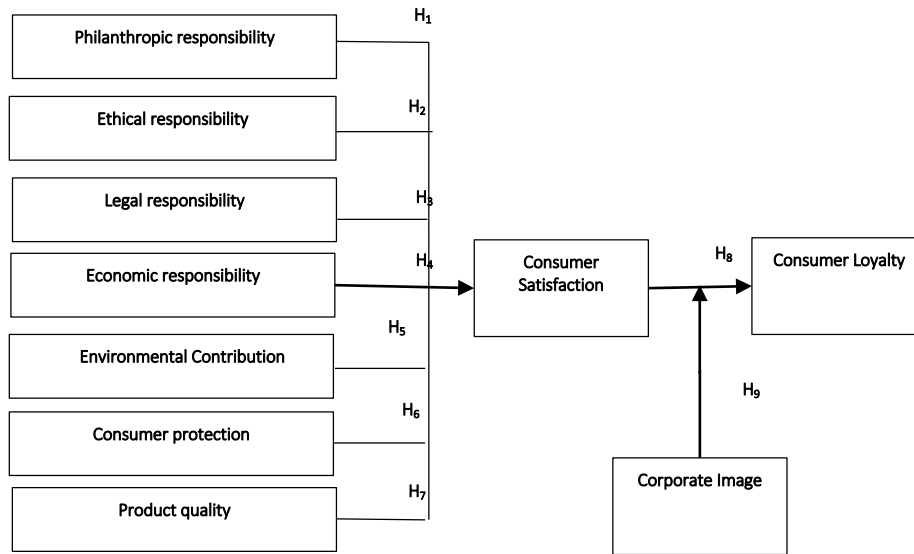


Figure 1. Conceptual model

Underlying the above conceptual model, there are nine hypotheses listed as below:

- H₁: Customer's perception of philanthropic responsibility positively influences customer satisfaction
- H₂: Customer's perception of ethical responsibility positively influences customer satisfaction
- H₃: Customer's perception of legal responsibility positively influences customer satisfaction
- H₄: Customer's perception of economic responsibility positively influences customer satisfaction
- H₅: Customer's perception of environmental contribution positively influences customer satisfaction
- H₆: Customer's perception of customer protection positively influences customer satisfaction
- H₇: Product quality positively influences customer satisfaction
- H₈: Customer satisfaction positively influences customer loyalty
- H₉: The effect of customer satisfaction on customer loyalty is greater for the high group of perception of corporate image than for the low group.

3. METHODOLOGY

A. Questionnaire Development

The questionnaire was conducted by a survey to get primary data. Most questions were set as statements on five-point Likert scale, ranging from 1 is "Strongly disagree" to 5 is "Strongly agree". The questionnaire will be originally developed in English and be translated into Vietnamese to help respondents understand simple and easy. The final questionnaire was completed and delivered directly to Vinamilk's customers with directions and precise contents to help them answer correctly. The questionnaire was spread out in paper form to reach the respondents directly and reject duplicated responds.

B. Data collection

As mentioned before, quantitative method is considered as the main approach to the study in order to explore the relationship between CSR program and product quality and customer loyalty. Therefore, a primary data will be collected from Vinamilk customers and has used Vinamilk's products for at least 6 months before. A survey, with minimum target 520 collected questionnaires, was spread out through face to face intercept survey. In term of place, the survey will be taken at two main supermarket chains (Co.op Mart and Big C) in Ho Chi Minh City region, which are main distribution channel of Vinamilk's products in Ho Chi Minh City.

Actually, there were 550 questionnaires handled directly by the participants. However, In 550 questionnaires collected, 46 unavailable ones with missing data was deleted. From that, the incidence rate is 8.4% (46/550), and the collected rate is 91.6% (504/550).

4. HYPOTHESIS TESTING

A. *Sample profile*

Table I
Sample Profile

Gender		Age		Education level		Occupation	
Male	62.3%	18-24	50.2%	High school	7.9%	Student	45.2%
Female	37.7%	25-39	37.1%	University	85.2%	Business man	20.0%
		40-59	11.1%	Higher education	6.9%	Officer	14.9%
		>= 60	1.6%			Engineer	14.3%
						Others	5.6%
N=504							

Demographic information and characteristics of respondent are shown in following tables (Table I). With 62.3%, the female is considered as majority group of respondents, the rest of 37.7% is belong to male group. In term of age, among 504 questionnaires collected, 87.3% comes from young age group (less than 40 years old), just 12.7% are old people who are more than 40 years old. In general, the perception of young female about CSR program of Vinamilk has a great effect on the result of the research. It is a normal sense that women are more likely to use milk products for improving their health and beauty.

In addition, the majority group is graduate people and students in university (85%). There is only about 8% of respondents just finish high school level, and the rest 7% are post-graduate people. The number show that almost all of respondents are in high level of education. Therefore, it's expected that respondents have a more accurate perception of CSR.

B. Validity and Reliability of Measures

Table II
Confirmatory Factor Analysis

Variables	Items	Estimate	S.E.	Standardized estimate	C.R.**	Cronback's anpha	Composite Reliability	Variance Extracted
Philanthropic responsibility	PHI3	1.197	0.117	0.752	10.197	0.695	0.71	0.58
	PHI4	1.000	-	0.661	-			
Ethical responsibility	ETH3	0.992	0.096	0.770	10.343	0.715	0.67	0.50
	ETH4	1.000	-	0.720	-			
Legal responsibility	LEG2	0.903	0.054	0.710	16.834	0.882	0.89	0.83
	LEG3	0.902	0.059	0.661	15.396			
	LEG4	1.000	-	0.803	-			
	LEG5	0.898	0.048	0.771	18.702			
	LEG6	0.967	0.050	0.787	19.184			
	LEG7	1.004	0.049	0.831	20.571			
Economic responsibility	ECO1	0.864	0.066	0.687	13.001	0.764	0.69	0.50
	ECO3	1.000	-	0.729	-			
	ECO4	0.747	0.073	0.524	10.245			
Environmental Contribution	ENV1	0.891	0.069	0.655	12.910	0.811	0.79	0.65
	ENV3	0.940	0.072	0.667	13.106			
	ENV4	1.000	-	0.735	-			
	ENV5	1.092	0.077	0.739	14.236			
Consumer protection	CON2	1.062	0.083	0.785	12.790	0.762	0.74	0.63
	CON3	1.000	-	0.749	-			
Product quality	QUA1	0.807	0.081	0.546	9.960	0.702	0.73	0.57
	QUA2	1.090	0.100	0.777	10.884			
	QUA3	1.000	-	0.737	-			
Corporate image	IMA1	1.174	0.110	0.671	10.700	0.73	0.73	0.52
	IMA3	0.835	0.090	0.540	9.285			
	IMA4	0.992	0.093	0.668	10.678			
	IMA5	0.787	0.072	0.492	10.854			
	IMA6	1.000	-	0.625	-			
Customer satisfaction	SAT1	0.907	0.073	0.643	12.398	0.743	0.75	0.53
	SAT2	0.830	0.075	0.567	11.082			
	SAT3	0.830	0.079	0.537	10.543			
	SAT4	0.977	0.083	0.605	11.756			
	SAT5	1.000	-	0.696	-			
Customer Loyalty	LOY1	0.732	0.050	0.631	14.756	0.873	0.87	0.79
	LOY2	0.647	0.043	0.635	14.892			
	LOY3	0.900	0.046	0.791	19.754			
	LOY4	0.940	0.044	0.844	21.323			
	LOY5	1.000	-	0.838	-			

Note. $\chi^2(581)=1486.943$, $p=0.000$, Chi/df = 2.559, GFI=0.864, AGFI=0.836, TLI=0.864, CFI=0.881, RMSEA=0.056, ** $p<0.01$

TABLE III
Correlation Between Variables

	LEG	ENV	QUA	ECO	CON	ETH	PHI	IMA	SAT	LOY
LEG										
ENV	.423**									
QUA	.103*	.166**								
ECO	.563**	.408**	.255**							
CON	.402**	.470**	.342**	.662**						
ETH	.515**	.396**	-0.028	.518**	.349**					
PHI	.436**	.525**	.216**	.594**	.494**	.402**				
IMA	.172**	.119**	0.085	.295**	.205**	.253**	.165**			
SAT	.508**	.483**	.160**	.521**	.482**	.477**	.522**	.253**		
LOY	.057	.111*	.011	.131**	.185**	.189**	.148**	.337**	.257**	

Note. **. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

C. Results of Structural Equation Modeling

Table IV
The Result of Hypothesis Testing

Hypothesis	Independent variable	Path	Dependent variable	Standardized estimate	S.E.	p-value	Result
H1	Philanthropic responsibility	→	Customer satisfaction	0.245	0.079	0.003	Accept
H2	Ethical responsibility	→	Customer satisfaction	0.21	0.045	***	Accept
H3	Legal responsibility	→	Customer satisfaction	0.224	0.047	***	Accept
H4	Economic responsibility	→	Customer satisfaction	-0.007	0.102	0.951	Reject
H5	Environmental Contribution	→	Customer satisfaction	0.190	0.056	0.001	Accept
H6	Consumer protection	→	Customer satisfaction	0.237	0.071	0.004	Accept
H7	Product quality	→	Customer satisfaction	0.012	0.042	0.812	Reject
H8	Customer satisfaction	→	Customer Loyalty	0.286	0.094	***	Accept

Note: $\chi^2(435)=1174.013$, $p=0.000$, $\chi^2/df = 2.699$, $GFI=0.873$, $AGFI=0.846$, $TLI=0.873$, $CFI=0.888$, $RMSEA=0.058$

Table V
Test of the Moderating Role of Corporate Image

Path	Low		High		Free model	Constrained model
	Coefficient	t-value	Coefficient	t-value		
Satisfaction -> Loyalty	0.151	1.115	0.531	4.745	$\chi^2(68)=295.771$	$\chi^2(69)=299.715$
Chi-square difference test: $\Delta\chi^2(1) = 3.944, p<0.05$ (significant). H9 is supported						

5. CONCLUSION AND RECOMMENDATION

The study was conducted at a time when the concept of CSR is booming globally, especially in developing countries like Vietnam. By accepting 7/9 hypotheses, the findings of this research confirms that the role of CSR increases continuously in the real business world, especially in Vietnam dairy market. The results of this study overlap with the finding of many previous studies. Most of the factors of CSR have directly positive impact on customer satisfaction (Arikan and Gunner, 2013; Ishaq et al., 2014; Chung et al., 2015), and the loyalty of consumers (Moisescu, 2015) toward the brand, as well as the moderating role of corporate image in the relationship of customer related outcomes (Chung et al., 2015). The importance order of CSR factors respectively is as: philanthropic responsibility, consumer protection, legal responsibility, ethical responsibility, environmental contribution.

According to research findings, there are several implications for both academic and real business world. First of all, the study contributes to the CSR literature by adding consumer protection and environmental distribution into Carroll's Pyramid. With the positive value of co-efficiency ($\beta = 0.190$ for environmental distribution and $\beta = 0.237$ for customer protection), the results of the study showed that these two factors affect positively customer satisfaction. Therefore, as an implication for further research, consumer protection, and environmental distribution would be added into Carroll's Pyramid to make CSR issues more comprehensive and consistent with the context of economic development in each period.

The reasons for the changes are that Vietnamese consumers have gradually realized the impact from production activities and daily activities to the natural environment as well as the consequences of these actions. Moreover, "green" items (as greenhouse, green-marketing, green-materials, green-fashion, etc.) are becoming a new trend helping consumers improve their awareness about environmental issues. Also, the recent scandals relating to the protection of consumer rights has become a hot topical issue in the mass media. These events make consumer aware more about their rights so that consumers have a high perception of related issues such as the quality of customer service, staffs' attitude, etc. All above factors strongly influence their purchasing decision. Therefore, it will be missing if the latter studies are not interested in the new criteria of CSR and leading to shortcomings in strategic planning for the company.

Second, with a positive relationship between CSR program and customer satisfaction and customer loyalty, companies should consider CSR as a strategic program to gain sustainable competitive advantages compared with competitors. Benefits of implementation of corporate social responsibility have been mentioned in previous research in advance (Azizi *et al.*, 2014; Fadun, 2014) and this time, results from this study still confirm it once again. Come from more than 500 responds of Vinamilk's customers; the conclusion is that the higher level in the implementation of CSR that company performs, the higher level of customer loyalty. That means the company should proactively set up long-term CSR goals themselves and maximize their CSR budget.

However, based on regression weight in SEM analysis, we can see the difference in importance among CSR criterions. That means the philanthropic responsibility affects customer satisfaction a little more than another one. In term of philanthropic responsibility, which is the most important factor of CSR (with the highest coefficient, $\beta = 0.245$), companies should actively organize charitable

and social activities to improve the quality of life of community. In contrast, environmental distribution is still getting the lowest weight in CSR family ($\beta = 0.190$). However, there are many environmental problems are seriously affecting citizens' lives over the world. In particular, a large portion of these problems is caused by industrial and production activities. Hence, it is very important to educate customers about the environmental distribution of corporate as well as creating a habit of buying "green" products.

Finally, research findings showed that high group of perception of corporate image expresses a higher level of customer loyalty than the lower one. Hence, the company should improve their corporate image for gaining a higher position in customers' mind. However, building and maintaining the company's image is never a simple task. It requires companies to have a long-term plan and seriously pursue the sustainable value of the company. Companies do not violate its business statement because of any short-term benefit. Also, the creation of corporate image must be done comprehensively in all aspects of company operations such as product quality, customer service, CSR program, scandal-solving, etc.

6. LIMITATION AND FUTURE RESEARCH

Within the limits of time and budget, there are some limitations that should be noted when using the results from this study.

The Cross-sectional research design is the first limitation of the study. The change in customers' attitude on CSR activities would not be reported. And the relationship between cause and effect of the problem cannot be observed. To overcome the problems, a longitudinal and qualitative study in parallel with quantitative study should be conducted.

Applying convenience sampling is the second limitation of the paper. Ease of availability, saving time, saving money, useful in a pilot study are advantages of convenience sampling. However, this sampling approach can lead to a bias data set. Collecting data from people who are easily accessible may lead to a consequence that data collected probably just represent unique group, not for the entire population. Hence, the findings of this study cannot be generalized to the whole population. So, the scope of this study is limited within Ho Chi Minh City. To remedy the limitation, in the case of without any limit of time and budget, a probability sampling should be conducted to get more accurate data set which can represent the whole population.

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EFFICIENCY OF VIETNAM'S INSURANCE MARKET: A DEA APPROACH

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ABSTRACT

This is the first paper conducted to evaluate the efficiency and productivity level in Vietnamese insurance industry using quantitative approach – DEA. This study measures insurance efficiency scores from the period between 2013 and 2015. The non-parametric approach – data envelopment analysis based upon CRS and VRS models, is applied to examine the insurance efficiency in terms of life and non-life sectors. The results also show that the Vietnamese Insurance firms in both sectors operated fairly at their efficient level during the period examined.

Keywords: Data envelopment analysis, DEA, insurance, efficiency, Vietnam, Malmquist

1. INTRODUCTION

Regarding the insurance market in Vietnam, prior to 1994 state-owned insurance enterprise, there was a monopolistic company, Bao Viet Insurance. Insurance at that time was simple and had a limited coverage product, only non-life products were provided and insurances contributed less than 0.5 percent of GDP (Ministry of Finance). Since 1994, however, the Vietnamese insurance industry has started to transform from a state-owned monopolist sector into a more gradually liberalized insurance industry. The implementation of other international commitments, free trade agreements, and the movement of Vietnam's economy from centrally planned to more free-competitive market had bolstered up the insurance industry significantly. Remarkably, Vietnam has joined WTO in 2007 and accepted its accessions, which helped to further enhance liberalization of insurance market.

Thanks to these developments, the insurance industry is instantly a thriving industry in Vietnam with the growth at rates of around 18.5% CAGR between 2007-2015 in both life and non-life sectors. In 2015, there were 47 insurers active in the market, including state-owned and private sector and domestic and foreign companies within the private sectors.

In additions, thanks to many Free Trade Agreements signed, Vietnam is expected to boost the economy significantly in manufacturing and construction industry. Insurance market, especially non-life insurance sector, will be indirectly beneficial from the agreement during taking part in all operational processes of foreign organizations: imports of machinery and equipment (cargo insurance), the logistics (vehicle insurance) and production (personal and property insurance).

Overall, the transformation of Vietnam insurance industry and its prosperous importance have demanded the significance of evaluating the performance of insurance companies and their operational efficiency. However, there is no dissertation so far studied about the overall industry's efficiency of Vietnam insurance market using non-parametric approach due to the lack of financial and operational data. Perceived the important role of insurance industry, this research is conducted by applying quantitative approach to measure the overall efficiency of insurance industry. Further, this paper attempts to provide a discerning evaluation for each Vietnam insurance companies' efficiency in both life and non-life sectors by employing the non-parametric DEA approach and Malmquist Total Factor Productivity Index.

This study is aiming to evaluate the relative efficiency performance of Vietnam Insurance Company in term of Life Insurance and Non-life insurance company between 2013 and 2015. The objective of the study is threefold:

- Determine the inputs and outputs of DMUs.
- Evaluate the efficiency scores and determine the trend from 2013 – 2015
- Conduct a comparison of insurance companies' efficiency in both life-insurance and non-life-insurance sectors.

2. INTRODUCTION TO VIETNAM INSURANCE INDUSTRY

Insurance industry has been developed for a long history around the world. However, Vietnamese insurance market has been operated shortly for 30 years due to the economic and political occurrences in the country. Predominantly, it has been divided into four main periods:

❖ In the period before 1975:

Vietnam's Ministry of Finance started to conduct research on the potential development of insurance market in 1963, which set the precedent for the establishment of Vietnam insurance company. Two years later, thanks to the Decision No.179/ CP (1964) of the Government Council and the request of Minister of Finance, the first Vietnam insurance company – Bao Viet, was officially established on 01.15.1965 with a total charter capital of VND 10 million (equivalent to nearly USD 2 million). During this time, Bao Viet only focused on the segment of non-life rather than life insurance. Life insurance had not been developed yet due to the low income population, poor economy development, high inflation, undeveloped financial markets with no investment opportunities as well as the legal framework on the relationship between insurers and the customers.

❖ In the period over 1975-1992

In 1977, the Minister of Finance started the merger of BAVINA – established insurance company under the management of Government of Republic of South Vietnam – with Bao Viet in Ho Chi Minh. Since then, Bao Viet has officially expanded the insurance operation in the southern province. Furthermore, at the annual meeting in 1980, National Assembly enacted the new Constitution, which indicated the importance of insurance's operation to the socio-economic development. Since 1981, Ministry of Finance has approved Bao Viet to expand the insurance network for entire country by the establishment of Provincial and Local Insurance Agencies. Later, Bao Viet started to deploy the field of accidental insurance, auto insurance and property insurance in 1981 – the prerequisite for the later agricultural insurance in 1986.

After the economic reform period which had been taken about 10 years, Vietnam's economy has made great progress. Specifically, inflation has been pushed back, the economic growth rate consistently was consistently high of 6-9% annually, socio-economic environment and legal environment are more favorable to the new entrants. These are the promising factors for the well-established life insurance sector in the next development period.

❖ In the period over 1993- 2000

Decree No. 100/CP dated 18 December 1993 on insurance business was the vital legal basis for further establishment of more developed non-life, life insurance market and its products distribution network. It was considered as the turning point for Vietnam insurance market. Over 1993-2001 period, there were additional 15 insurance companies operating: 6 local non-life insurers (Bao Minh, Vinare, PJICO, Bao Long, PVI, PTI), 4 foreign non-life insurers (VIA, UIC, Allianz, Viet-Australia), 4 foreign life insurers (Bao Minh – CMG (Dai-ichi life), Prudential, Manulife, AIA) and 1 broker (Bao Viet – AON). It was the end of insurance monopolistic market of Bao Viet Holdings era, which transferred into more developed and competitive one. There are 2 important aspects of Decree No. 100/ CP that provided (1) the permission to establish businesses beside Bao Viet and (2) the delegation to Minister of Finance performing insurance governance and supervision of the market.

At the first time in Vietnam, insurance activity was official classified as life insurance and non-life insurance. Furthermore, insurance companies operated in both life insurance and non-life insurance sectors simultaneously, must conduct accounting reports separately. In general, Decree No. 100 has brought an inchoate and standard landmark for stimulating and attracting insurance activities from internal and external corporations. Specifically, it is indicated the functions of insurance companies in Decree No.100 that: “Insurance companies had a permission to conduct assessment, inspection, calculation for loss distribution, and act as agent in assessment and settlement of compensation”

In 1996, with the aim of business expansion, Bao Viet had conducted a research and issued the pioneering policy in life insurance service, and became the first domestic company operating in life-

insurance industry. On 03/20/1996, the Ministry of Finance officially decided to allow Bao Vietnam to deploy 2 life-insurance products: Combined insurance and insurance-life safety education. On December 9, 2000 the National Assembly had passed the Vietnamese Insurance Law which was effective from 1/4/2001, consisting 9 chapters with 129 articles, to create a completely comprehensive legal framework for the insurance market in Vietnam. The insurance business and fair competition have been the driving force of Vietnam's insurance market, especially in the life insurance market development.

❖ **In the period over 2001 - present**

From 2007 to 2015, there was a significant increase in gross written premium in both life and non-life sectors with 18.48% and 15.54% CAGR respectively. Insurance industry has become the significantly attributable proportion of GDP accounting for nearly 1.8% in 2015 comparing with 0.5% in 1993. As the end of 2015, there were total of 60 companies operating in the Vietnamese insurance market, in which 29 non-life insurers, 17 life insurers, 12 insurance brokerage firms and 2 re-insurance companies. In term of ownership, there are 26 foreign owned insurers, which is 3 times comparing with 9 companies in 2000.

The rationale for the increasing number of foreign firms was the Vietnam's WTO participation and Free Trade Agreements (AEC, EU, etc.). The foreign insurance institutions' participation has encouraged a large number of international investors come into Vietnam insurance market which simply shows the commitment to the openness and holds a belief in the Vietnam's vigorous investment opportunities. In addition, the penetration of the life insurance companies abroad has also contributed to capacity building of the insurance market, setting up a channel to attract more capital for saving and investment. In conclusion, the insurance market of Vietnam has been gradually integrating into the life insurance market and world region. However, there is little focus on the efficiency measure of insurance industry

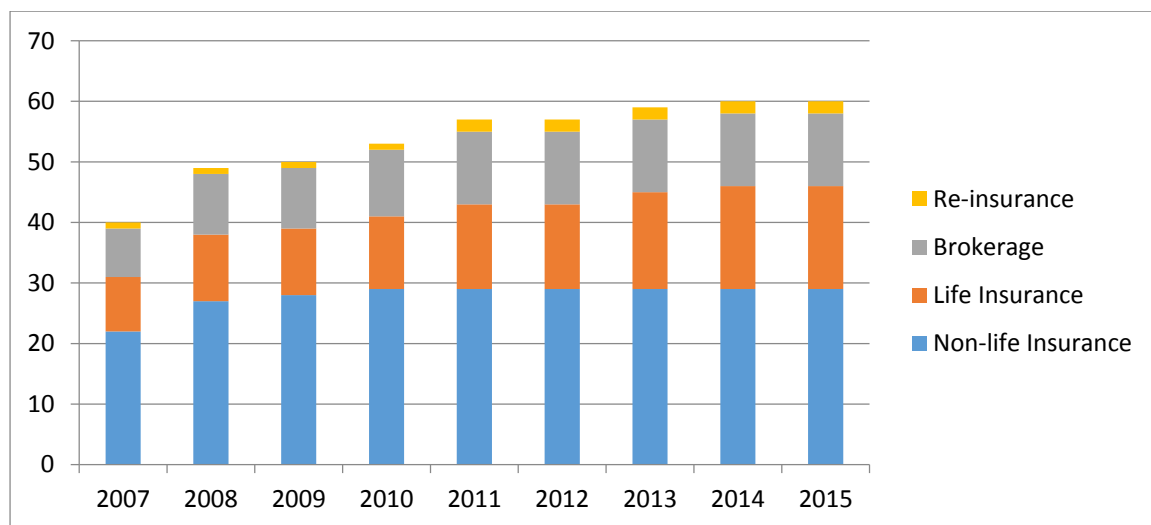


Figure 1. Structure of Vietnam's insurance market companies. Adapted from Ministry of Finance.

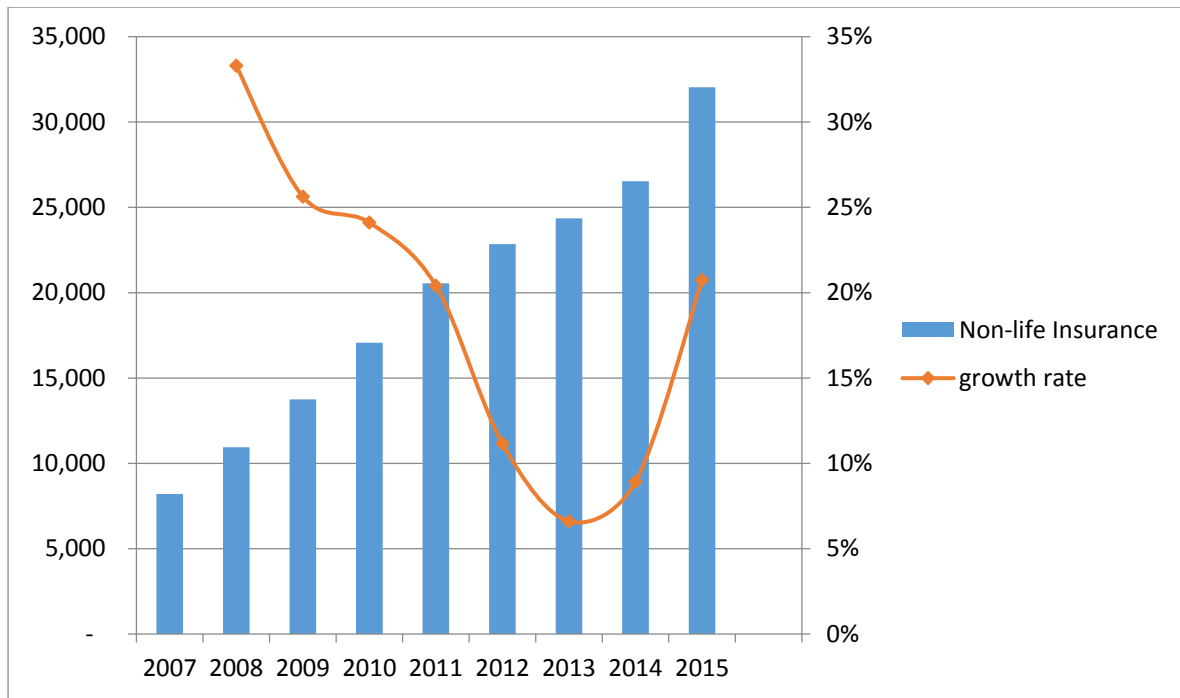


Figure 2. Revenue and growth rate from insurance activities. Adapted from Ministry of Finance.

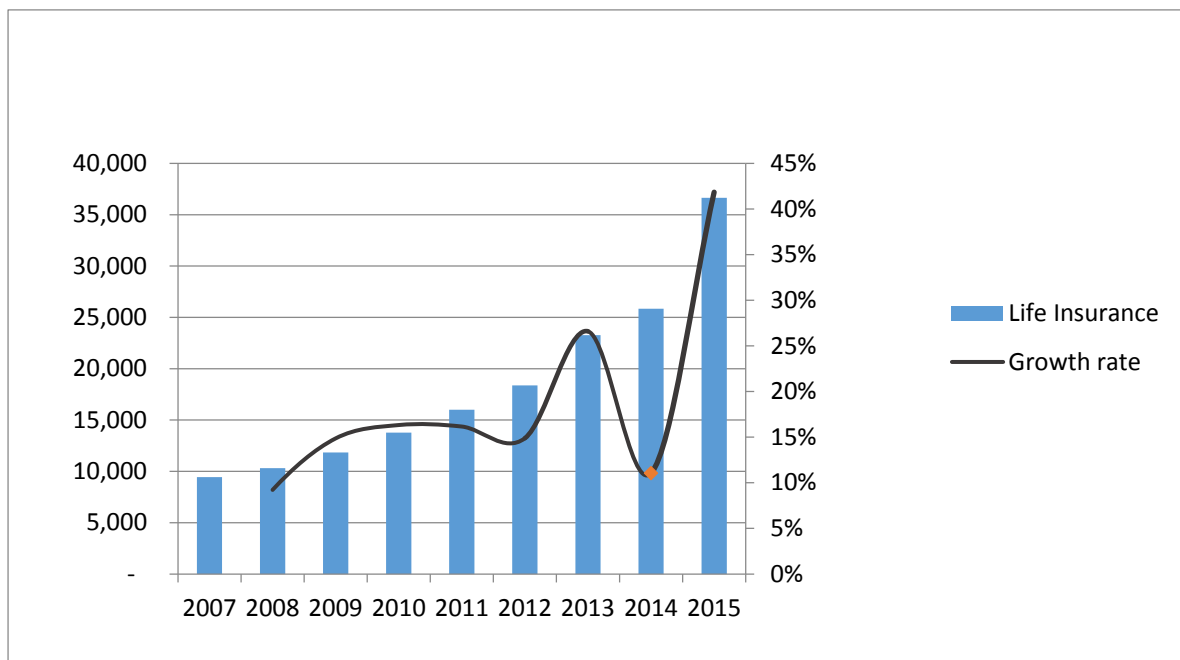


Figure 3. Revenue and Growth rate from insurance activities. Adapted from Ministry of Finance.

3. LITERATURE REVIEWS AND PREVIOUS STUDIES

Numerous researches using DEA and Malmquist Index were conducted to evaluate the efficiency in many different industries. However, there is little focus or very rare quantitative studies evaluating the Vietnamese insurance industry's efficiency. Other related studies in Vietnamese insurance focused mostly on qualitative approach to the public health insurance, which did not examine comprehensively the whole industry at all. DEA method has been widely used in Vietnamese banking industry, but not the insurance.

Mansor and Radam (2000) used Malmquist Index to measure the productivity and efficiency of a sample of 12 Malaysian insurance companies between 1987 and 1997. As the results, insurance

industry in Malaysia exhibited productivity growth, which was not relatively equivalent to the economic growth nonetheless.

Diacon, Starkey, and O'Brien (2002) measured the relative efficiency of 450 European insurance companies in the period over 1996-1999 by applying 2-stage approach. In the first stage, they used VRS DEA model to estimate the efficiency score using inputs as total operating expense, net of reinsurance commissions, non-technical accounts and total capital, and outputs as insurance net earned premium, and total investment income. In the second state, they used Tobit regression of the independent variables as technical, scale efficiency and mixed efficiency with financial ratios, dummy variables of type insurance companies (mutual companies and stock insurers), national dummies and year dummies. As the result, the mutual companies had operated at higher level of efficiency than the others.

Barros, Barroso, and Borges (2005) estimated changes in TFP of 27 Portugal Insurance companies and their change in the period over 1995-2001 by using Malmquist Index. The conclusion is that 13 over 27 Insurance companies analyzed had operated with growing efficiency; on the other hand, 14 over 27 had experienced a decreasing productivity.

Yang (2006) measured the overall performance of 72 insurance companies in Canada in year of 1998. He applied the general two-stage DEA approach to measure the efficiency by 2 models: production and investment. They used 4 inputs (labor expense, General expense, total capital surplus and reserves, claims incurred combined) and 2 outputs (Net premium written and net income) for production model. They applied also 4 inputs and 2 outputs for investment model. In the second stage, he applied the new perspective selecting approach as input as dummy variable 1 and outputs as the production efficiency scores and its inverse. In the second stage, the efficiency score of model 1 and reverse efficiency score of model 2 are used as the output, and dummy variable 1 is assigned to input. Consequently, there are 26 production efficient companies and 18 investment efficient companies, and the efficiency scores are relatively high in 1998.

Dibok and Ubl (2007) studied the ownership and efficiency of 90 German life insurances over the period 2002-2005 by employing DEA bootstrap approach. They found the evidence that all types of insurers (stock, mutual and public) did not operate on the mix production frontier and cost frontier. Also, the public ownership was highly related to the efficient structure. The reason for inefficient companies is likely to depend most on the organization with the hybrid form.

Cummins, Weiss, Xie, & Zi (2010) analyzed economies of scope in US financial insurance industry focusing on the core period 1993-2006 with the adoption of under the semiparametric. In the first stage, they estimated 3 efficiencies: cost, revenue and profit efficiency using DEA. In the second stage, they used multiple regression analysis with efficiency scores as dependent variable and firm characteristic as independent variables.

Biener et al. (2014) measured the efficiency and productivity in Swiss insurance industry in different sectors including life, non-life insurance, and reinsurance over the period of 1997-2013. In the first stage, they applied the input-orientated DEA and Malmquist Index Total Factor Productivity (TFP). The second stage, they developed a total of 8 hypotheses of determinants, in which 7 of them was to test the relationship between industry's efficiency with 7 factors (International Diversification, Economies of Scale, Economies of Scope, Organizational form, Leverage, Premium growth, Company age) and productivity and efficiency scores measured from 1997-2013. They found that there was amelioration in productivity and efficiency in Swiss insurance market only of property/casualty and reinsurance sectors, but not of the life insurance sector, and different determinants affected to specific sectors.

In conclusion, many prior studies have shown that many different methods of non-parametric as well as semi-parametric have been widely employed to estimate of efficiency of insurance sectors. In Vietnam, prominently, there has been no supporting study for insurance sector using DEA approach.

Hence, it raises a demand to this dissertation conducted to measure the efficiency of Vietnamese insurance industry – important industry in Vietnam, with an application of DEA and Malmquist Index.

4. METHODOLOGY

❖ Data Envelopment Analysis

There are 2 main methods for efficiency measurement: parametric and non-parametric approaches (Coelli, Rao, O'Donnell, & Battese, 2005). The parametric method includes least-squares econometric production models and stochastic production frontier. The non-parametric approach is known as total factor productivity indices (TFP) and data envelopment analysis – DEA approach.

Farrell (1957) firstly initiated the method to estimate the efficiency performance using multiple inputs - Technical Analysis (TE). He classified the efficiency of firms as two components: technical efficiency and allocative efficiency, which combined to the total economic efficiency. DEA represents the linear programming methodology that can estimate the efficiency of specific firm employing multiple inputs and outputs (Yue, 1992). Charnes, Cooper, and Rhodes (1978) developed Farrell's model to wide-known approach – Data envelopment analysis, in which modified his frontier efficiency concept with the purpose of measuring efficiency of Decision-Making-Units (DMUs)

Charnes et al. (1978) proposed the most basic DEA models, the CCR model. CCR method is also applied the implication of productivity, which equals to the ratio of virtual output (y_{mo}) and virtual input (x_{mo}) by weights (u_i) and (v_j) respectively.

$$\text{Virtual input} = v_1x_{1o} + v_2x_{2o} + \dots + v_mx_{mo}$$

$$\text{Virtual output} = u_1y_{1o} + u_2y_{2o} + \dots + u_sy_{so}$$

$$\text{Productivity} = \frac{\text{virtual output}}{\text{virtual input}}$$

Suppose there are n DMUs, with m input and s output items. The expression of matrix X and matrix Y is as follows:

$$X = \begin{bmatrix} x_{11} & x_{12} & \dots & x_{1n} \\ x_{21} & x_{22} & \dots & x_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ x_{m1} & x_{m2} & \dots & x_{mn} \end{bmatrix} \quad Y = \begin{bmatrix} y_{11} & y_{12} & \dots & y_{1n} \\ y_{21} & y_{22} & \dots & y_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ y_{s1} & y_{s2} & \dots & y_{sn} \end{bmatrix}$$

The input matrix X is $m \times n$ matrix and the output matrix Y is $s \times n$ matrix. Let the $u = (u_1 \ u_2 \ \dots \ u_n)^T$ and $v = (v_1 \ v_2 \ v_3 \ \dots \ v_n)^T$ are the weights vectors of output and input, respectively. The fundamental output maximization CCR model is described as fraction programs:

$$\begin{aligned} \max_{u,v} \theta &= \frac{u_1y_{1o} + u_2y_{2o} + \dots + u_sy_{so}}{v_1x_{1o} + v_2x_{2o} + \dots + v_mx_{mo}} \\ \text{subject to} \quad &\frac{u_1y_{1o} + u_2y_{2o} + \dots + u_sy_{so}}{v_1x_{1o} + v_2x_{2o} + \dots + v_mx_{mo}} \leq 1 \quad (o=1, \dots, n) \\ &v_1, v_2, \dots, v_m \geq 0 \\ &u_1, u_2, \dots, u_s \geq 0 \end{aligned}$$

The restriction means the productivity ratio is less than or equal to 1 for each DMU. The objective of the model is to maximize the DMU₀ which has the value of 1 – operating efficiently. The other DMU will be classified as the relative performance with DMU₀ (efficiency score is less than 1).

The fractional program itself has the problem with mathematical solution with larger number of inputs and output, hence, can be transformed to linear program in order to estimate in transparent way:

$$\begin{aligned}
 \max_{\mathbf{u}, \mathbf{v}} \theta &= u^T y_0 & o=1,2,\dots,n \\
 \text{subject to} & v^T x_0 = 1 & o=1,\dots,n \\
 & u^T y_j - v^T x_j \leq 0 & j=1,\dots,n \\
 & v \geq 0 \\
 & u \geq 0
 \end{aligned}$$

Other alternative approach is input minimizing efficiency model:

$$\begin{aligned}
 \min_{\mathbf{u}, \mathbf{v}} \theta &= v^T x_0 & o=1,2,\dots,n \\
 \text{subject to} & u^T y_0 = 1 & o=1,\dots,n \\
 & u^T y_j - v^T x_j \leq 0 & j=1,\dots,n \\
 & v, u \geq 0
 \end{aligned}$$

The input-orientated technical efficiency measure address to the proportionally reducing of input quantities without changing the output quantities produced. The output oriented is employed to answer the question of how much can the output level expanded without changing the input level used. Both methods are equal measures under the assumption of constant return to scale (Fare and Lovell, 1978). The CRS model has based on the assumption of ideal productivity which indicates the equal approach to the resources and technology of firms. This would not be true in practice, therefore, the new developed model of DEA – BCC (VRS) was initiated by Banker, Charnes, and Cooper (1984). This model presents more pragmatic technological situation of insurance companies by considering more firms on the efficiency frontier. The following figure 4 illustrates the VRS and CRS with technical efficiency and scale efficiency.

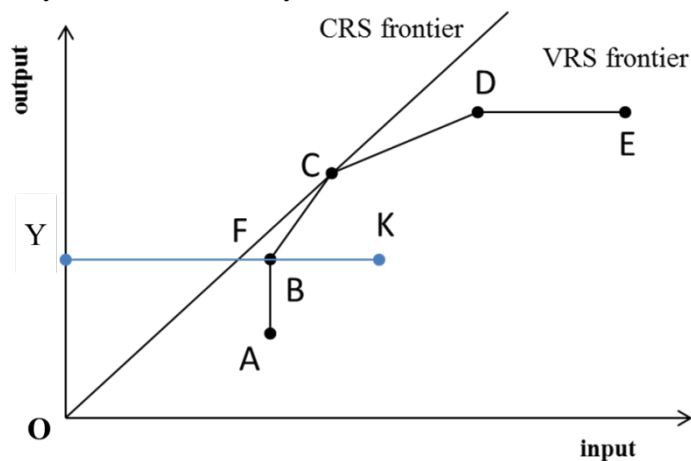


Figure 4. VRS and CRS frontier illustrations.

$$TE_{VRS} = \frac{YB}{YK}$$

$$TE_{CRS} = \frac{YF}{YK}$$

$$SE = \frac{TE_{CRS}}{TE_{VRS}} = \frac{YF}{YB}$$

❖ **Malmquist Index**

DEA itself does not show the progress or regress of efficiency over long-time period, which only is used to show the efficiency level for each year examined. Therefore it is hard to evaluate the change in efficiency growth using only DEA method under the construction of annual production frontier. Malmquist is the complementary solutions for DEA. Malmquist Index is decomposed into two factors: Technical-efficiency change (Catch-up effect) and Technological change (Frontier – effect). Catch-up effect measures the relative position of firm to its efficient frontier of year t+1 to the relative position of firms to efficient frontier of year t. Frontier-shift effect evaluate the change in the technology – the comparison of 2 frontiers.

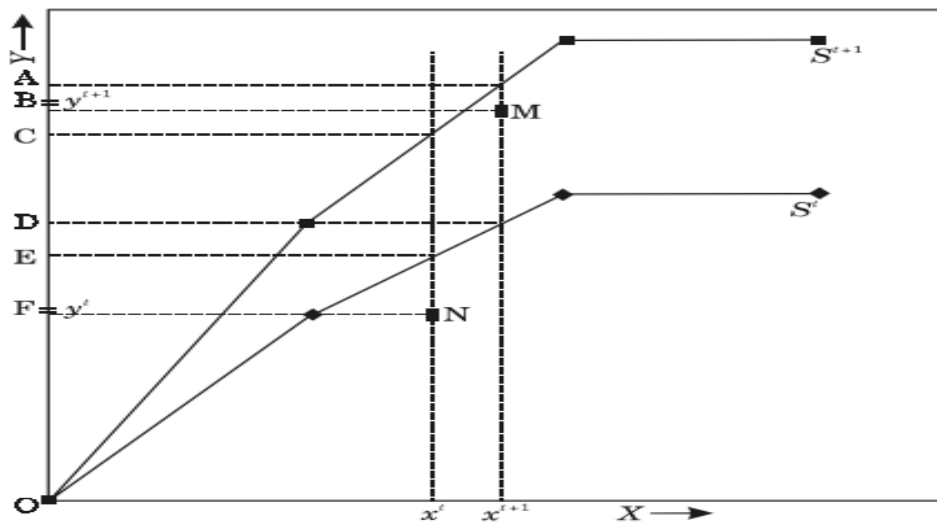


Figure 5. Malmquist TFP representation

Malmquist Index = Catch-up Effect \times Frontier Effect

$$= \frac{OB}{OA} \frac{OF}{OE} \times \left[\frac{OA}{OD} \times \frac{OC}{OE} \right]^{1/2}$$

5. INPUTS AND OUTPUT SPECIFICATION

There is no simple solution for choosing input and output specification; instead, reasonable arguments. The majority of insurers in both life and non-life sectors are non-public listed companies, which leads to the problem of finding sufficient data for the whole industry.

Leverly and Grace (2010) indicate the 3 main functions of insurance companies: risk-pooling or risk bearing, “real” financial services and intermediation, which is the most useful specification to determine input and outputs

- Financial services: insurers provide a various service for the insured including risk management, loss prevention and legal defense.
- Intermediation: insurers are the intermediate institutions that transferring the funds of the insured to invest in financial assets (bonds, deposits, etc.)
- Risk pooling- the most important function of insurance activity: insurances providers supplies a system, in which the customers exposed to losses could engage in risk diversification through pooling, including the activities of underwriting products.

❖ Inputs

Cummins and Weiss (1993) classify the input of insurance firms into 3 groups: labor, materials and business services, and capital. Because the insurance companies have never reported exactly not only the amount of employees and their salary wages but also the amount expenses using in their materials and services, the first 2 group is included in one component – operating expenses (Fenn, Vencappa, Diacon, & O’Brien, 2008). Cummins and Weiss (2013) have also supported the highly related between operating expenses and labors. Hence, I used both operating expenses from insurance activity and general and administrative expenses as two inputs for labor, materials and services.

In terms of the financial capital aspect, many previous studies (Biener et al., 2014; Wu, 2001) includes the equity capital as an input with the rationale that the use of equity’s capital relate to the promise pay the claims if the losses occur and to satisfy the regulatory requirements.

❖ Outputs:

There are 3 main approaches that have been applied to consider the outputs of the financial services industry (1) asset approach, (2) user-cost approach, and (3) the value-added approach (Berger & Humphrey, 1992).

The **asset approach** (intermediation-approach) indicates the firms as the traditional financial intermediations who transferring funds from the savers to the borrowers to earn the difference between 2 distinct interest rates, which is not useful method in insurance industry. Insurance industry offers more service products comparing with the simple deposits and loans as the original financial institutions. Therefore, it is not an appropriate approach for insurance industry.

The **user-cost approach** classifies the output and input of financial product services by comparing the return and opportunity cost. If a component variable has higher return or the lower financial cost than the firm’s opportunity cost of firms, it is considered as the output; otherwise, as an input for the approach. The problem with this method is the determination of input and output, especially for the multiple intangible assets in insurance industry, which have interchangeable functions in the return and costs.

The **value-added approach** is the most appropriate method to evaluate the efficiency of insurance industry (Cummins and Weiss, 1998). Firstly, insurance issued policies and obtained the benefits from insurance premium. Therefore, Arrow (1971) classified the premium is the value-added output of insurance industry. Because of the problem of data in premium, this research employs the revenue from the insurance activities as the proxy for the premiums earned. Second, one of the main functions of insurance companies is to maintain the safety level through the process of financial investments. Thus total financial investment (short term + long term) of insurance companies is considered as the second output.

The outputs and inputs are summarized in the tables 1 and 2 for both sectors

6. RESULTS AND DISCUSSIONS:

In this paper, the panel data is employed, which consists of 30 insurances companies in Vietnam 12 life insurers and 18 non-life insurers over the period of 2013 and 2015.

Table 1 and 2 give a summary of the data set for outputs and inputs. Cooper, Seiford, and Zhu (2011) have ensured that the zero value of minority of inputs or outputs affects the results of DEA method and Malmquist Index. Thus, this research is limited to employ variables with 0 values of inputs and outputs. Many DMUs which includes the 0 value in both input and output are excluded from the sample.

Table 3 and 4 summarize the estimated efficiency scores of 12 life insurers examined based upon CRS and VRS. With respect to the VRS, there are a total of 6 insurers operating in the technical-efficiency frontier in 2013, accounted for 50% number of insurers examined. Fubon Life and Generali Vietnam were the two firms with lowest technical-efficiency level with 0.568, 0.594 respectively, which implies that at same level of output produced, Fubon Life and Generali Vietnam actually consumed inputs used only of 56.8% and 59.4% relatively to the best-practice-frontier firms. Firms with biggest market share: Bao Viet, Prudential and Cathay Life, exhibited technical efficiency under both CRS and VRS models over the period. There are 2 positive-transformation DMUs, which operated inefficiently in 2013 but at efficient level in 2015: Fubon Life, Manulife. By contrast, there are 2 negative-transformation DMUs: Dai-ichi Vietnam and PVI Sun Life, in which PVI Sun Life deteriorated significantly. Overall, there was a decrease in average technical efficient scores from 0.89 to 0.84 (CRS) and from 0.98 to 0.92 (VRS).

Tables 5 and 6 report the efficiency scores of 18 non-life insurers, assuming constant returns to scale (CCR) and variable returns to scale (BCC), and sample mean values for the technical efficiency scores. From the observations, first of all, there are 9 firms operating efficient in both years of 2013 and 2015 (VRS), in which UIC operated efficiently under both CRS and VRS assumptions. Secondly, Bao Minh, MTV Banking and Military exhibited the positive-transformation from 2013 to 2015; by contrast, PTI, Liberty and Saigon Hanoi experienced the negative-transformations. Lastly; AIG, GIC and VNI operated inefficient in three years. Overall, the average efficiency scores remained stable at 0.86 (VRS) and at 0.95 (VRS) over the period examined.

Tables 7 and 8 illustrate the geometric mean of Malmquist Index in life and non-life sectors in terms of efficiency change (catch-up effect) and technological change (frontier effect) under VRS assumption. In life sector, over the period examined, the result highlights the reduction in total factor productivity change represented by 0.915 of total factor productivity. Specifically, 7/12 life insurers exhibited the decrease in total factor productivity, by contrast, 5/12 life insurers increased the index. In non-life sector the result highlights the small increase in total factor productivity change of 1.009. There are a total of 10 over 18 companies in productivity growth, and 8/18 experienced the regress in Malmquist Index.

7. CONCLUSION

From those tables, it can be extrapolated from those tables that the overall performances of Vietnam insurance companies are mostly on the efficiency level from 2013 to 2015, with the technical efficiency of over 80%.

In general, despite their double-digit growth rates in revenue, there was just a small improvement of the efficiency productivity growth in non-life sectors and even deterioration of productivity efficiency reflected by Malmquist Index tables over the period examined. One possible explanation is the decrease in interest rates in Vietnam from 2013-2015, which affects to the profitability of financial investments of insurance firms (Figure 6). Other explanation is due to the sharp increase in the input (cost management) reflected by the decrease in number of contracts issued by an agent (Figure 7).

This paper laid the foundation for further researches to examine the efficiency and productivity level of Vietnamese insurance system for further researches.

8. APPENDICES

Table 1

Summary statistic of outputs and inputs in Life Insurance Sector (in billion VND)

2013	Output		Input	
	Revenue from Insurance Activity	Total financial investments	Operating Expenses	Equity
Average	1789.7	6665.9	1447.2	2223.9
Standard deviation	2615.1	10627.8	946.2	3263.1
Median	463.5	2164.5	1189.5	566.3
Min	5.0	491.0	564.0	98.1
Max	7759.7	33401.9	3901.4	9864.1
2014	Revenue from Insurance Activity	Total financial investments	Operating Expenses	Equity
Average	2149.2	8755.4	1587.3	2854.5
Standard deviation	3144.0	14280.8	1199.8	4353.3
Median	686.0	2562.5	1276.0	664.5
Min	21.0	535.0	603.0	99.4
Max	9155.6	39306.0	4905.0	12014.8
2015	Revenue from Insurance Activity	Total financial investments	Operating Expenses	Equity
Average	2685.7	8832.1	1689.2	3457.9
Standard deviation	3946.3	13901.9	1210.9	4896.7
Median	548.0	3167.0	1356.5	1150.1
Min	49.9	265.0	546.0	105.8
Max	11201.2	46339.0	4997.1	15950.7

Table 2

Summary statistic of outputs and inputs in Non-Life Insurance Sector (in billion VND)

2013	Output		Input	
	Revenue from Insurance Activity	Total financial investments	Operating Expenses	Equity
Average	761.5	1491.7	1432.2	813.0
Standard deviation	828.3	2449.7	2523.7	897.6
Median	396.0	519.0	516.0	427.4
Min	47.0	200.0	317.0	77.5
Max	2763.0	9266.7	9913.5	2904.0
2014	Revenue from Insurance Activity	Total financial investments	Operating Expenses	Equity
Average	997.7	1793.1	1523.5	955.8
Standard deviation	1286.4	2998.7	2706.8	1059.6
Median	428.5	641.9	541.5	468.9
Min	49.7	166.0	300.0	99.2
Max	4824.0	11243.0	10447.3	3500.0
2015	Revenue from Insurance Activity	Total financial investments	Operating Expenses	Equity
Average	1190.0	2032.4	1688.0	1377.8
Standard deviation	1516.6	3254.0	2714.7	1971.0
Median	430.5	752.5	567.5	492.8
Min	55.4	127.0	311.0	89.6
Max	5211.2	13447.0	10707.3	7567.2

Table 3

Technical Efficiency Scores with respect to CRS and VRS model of Life Sector from 2013 to 2015

DMUs	2013			2014			2015		
	CRS	VRS	SE	CRS	VRS	SE	CRS	VRS	SE
Bao Viet Life	1	1	1	1	1	1	1	1	1
Prudential	1	1	1	1	1	1	1	1	1
Manulife	0.966	0.969	1	0.91	0.91	1	1	1	1
AIA	0.911	0.942	0.97	1	1	1	0.87	0.895	0.97
ACE LIFE	1	1	1	0.96	0.97	1	1	1	1
Prevoir	0.723	1	0.72	0.78	1	0.8	0.78	1	0.78
Dai-ichi	1	1	1	1	1	1	0.9	0.902	0.99
Cathay Life	1	1	1	1	1	1	1	1	1
VCB Cardif	0.873	1	0.87	1	1	1	1	1	1
Fubon Life	0.568	0.876	0.65	0.66	0.98	0.7	1	1	1
Generali	0.594	0.94	0.63	1	1	1	0.25	0.681	0.37
PVI SunLife	1	1	1	0.3	0.61	0.5	0.34	0.577	0.59
Mean Value	0.886	0.977	0.9	0.88	0.96	0.9	0.84	0.921	0.89

Table 4

Technical Efficiency Score's Statistics Summary in -life sector in CRS and VRS models

	2013		2014		2015	
	CRS	VRS	CRS	VRS	CRS	VRS
Mean Score	0.89	0.98	0.90	0.88	0.84	0.92
Standard deviation	0.16	0.04	0.21	0.11	0.27	0.14
Max	100	100	100	100	100	100
Min	0.568	0.876	0.301	0.606	0.254	0.577
Number of efficient DMUs	6	8	7	8	7	8
% of efficient DMUs	50%	67%	58%	67%	58%	67%

Table 5
Technical Efficiency Scores with respect to CRS and VRS models of Non-Life Sector from 2013 to 2015

DMUs	2013			2014			2015		
	CRS	VRS	SE	CRS	VRS	SE	CRS	VRS	SE
Bao Viet	0.75	1	0.75	1	1	1	0.85	1	0.85
Bao Minh	0.828	0.895	0.92	0.87	0.96	0.9	0.87	1	0.87
Pjico	1	1	1	1	1	1	1	1	1
Bao Long	0.872	1	0.87	1	1	1	1	1	1
PVI	0.869	1	0.87	0.87	1	0.9	0.74	1	0.74
UIC	1	1	1	1	1	1	1	1	1
PTI	1	1	1	1	1	1	0.86	0.996	0.86
MTV Banking	0.787	0.827	0.95	0.87	0.93	0.9	0.99	1	0.99
BIC	1	1	1	1	1	1	0.91	1	0.91
AAA	1	1	1	0.83	1	0.8	0.79	1	0.79
AIG	0.569	0.85	0.67	0.55	1	0.5	0.57	0.997	0.58
GIC	0.623	0.706	0.88	0.78	0.83	0.9	0.74	0.784	0.94
Liberty	0.936	1	0.94	1	1	1	0.88	0.884	1
Military	0.877	0.954	0.92	0.93	0.95	1	0.98	1	0.98
VNI	0.848	0.871	0.97	0.78	0.87	0.9	0.74	0.827	0.9
Saigon - Hanoi	0.77	1	0.77	0.74	1	0.7	0.65	0.669	0.97
MSIG	0.982	1	0.98	0.84	1	0.8	1	1	1
Cathay	0.783	1	0.78	0.51	1	0.5	0.88	1	0.88
Mean Value	0.861	0.95	0.90	0.86	0.97	0.89	0.86	0.953	0.90

Table 6
Technical Efficiency Score's Statistics Summary in Non-Life sector in CRS and VRS models

	2013		2014		2015	
	CRS	VRS	CRS	VRS	CRS	VRS
Mean Score	0.86	0.95	0.86	0.97	0.86	0.95
Standard deviation	0.13	0.09	0.15	0.05	0.13	0.10
Max	100	100	100	100	100	100
Min	0.569	0.706	0.506	0.829	0.574	0.669
Number of efficient DMUs	5	12	6	13	4	12
% of efficient DMUs	28%	67%	33%	72%	22%	67%

Table 7
Malmquist Index Summary of DMUs Geometric Mean in Life Sector

Firm	Efficiency change	Technological Change	Malmquist Index
Bao Viet Life	1	1.057	1.057
Prudential	1	0.953	0.953
Manulife	1.017	0.95	0.966
AIA	0.976	1.11	1.083
ACE LIFE	1	0.991	0.991
Dai-ichi Vietnam	0.946	1.059	1.002
Prevoir	1.037	0.987	1.024
Cathay Life	1	0.837	0.837
VCB Cardif	1.07	0.9	0.963
Fubon Life	1.327	0.827	1.098
Generali Vietnam	0.654	1.005	0.657
PVI SunLife	0.584	0.947	0.552
Mean	0.948	0.965	0.915

Table 8
Malmquist Index Summary of DMUs Geometric Mean in Nonlife Sector

Firm	Efficiency change	Technological Change	Malmquist Index
Bao Viet	1.066	1.091	1.163
PVI	0.922	1.029	0.949
Bao Minh	1.026	1.007	1.033
Pjico	1	1.035	1.035
PTI	0.927	1.028	0.953
BIC	0.952	0.98	0.933
GIC	1.088	1.043	1.135
Millitary	1.058	0.996	1.053
Saigon - Hanoi	0.918	0.991	0.91
Bao Long	1.071	1.016	1.088
UIC	1	0.902	0.902
MTV Banking	1.123	1.007	1.131
AAA	0.891	0.978	0.872
AIG	1.004	0.999	1.003
Liberty	0.972	1.024	0.995
VNI	0.935	1.036	0.968
MSIG Vietnam	1.009	1.068	1.077
Cathay Vietnam	1.059	0.969	1.026
Mean	0.999	1.01	1.009

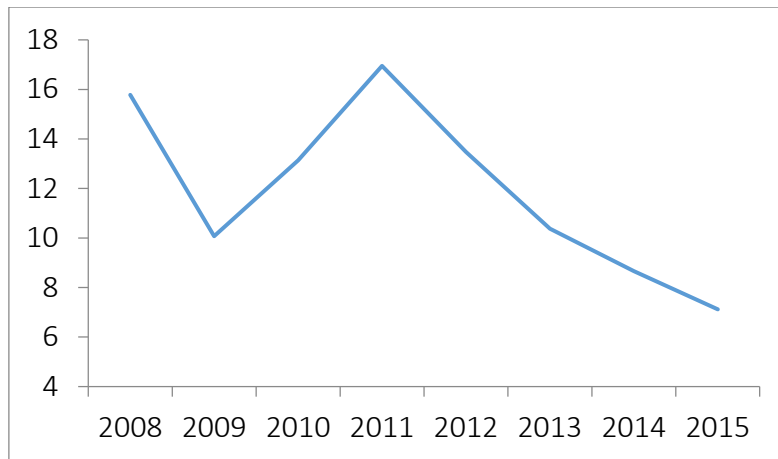


Figure 6. Vietnam's banking interest rate.

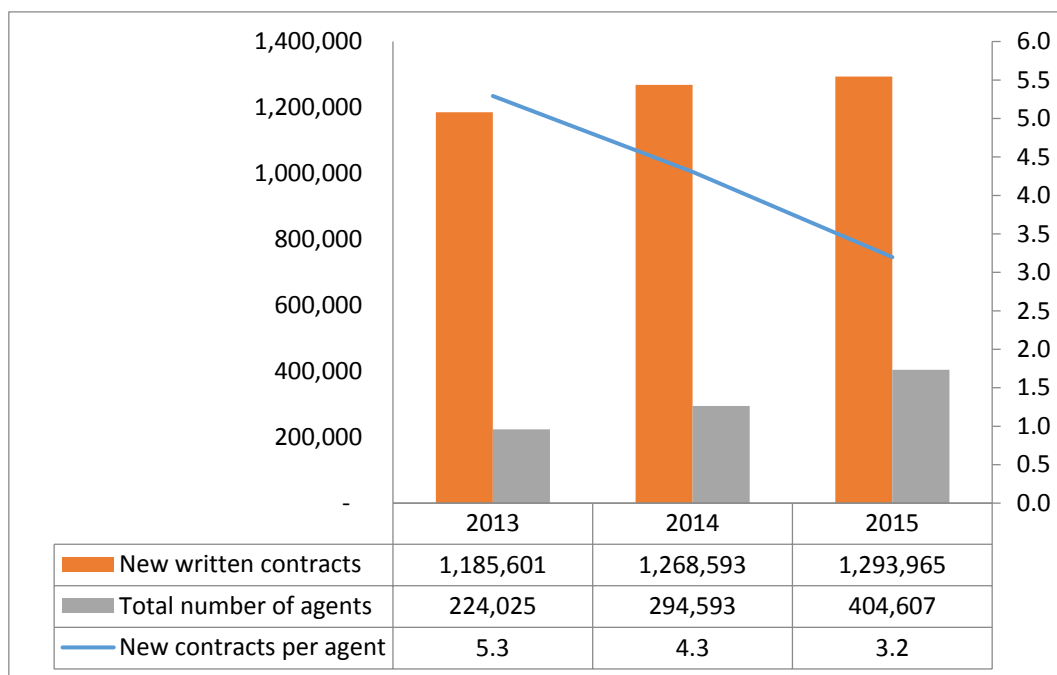


Figure 7. Insurance contracts and agents description.

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THE EXTENT TO WHICH EARNINGS ARE MANIPULATED IN THE FINANCIAL SECTOR OF THE STOCK EXCHANGE OF THAILAND AND ITS EXOGENEOUS MACROECONOMIC FACTORS

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ABSTRACT

The objective of this study is to use the Beneish M-score model to detect financial fraud in the Stock Exchange of Thailand. Our investigation emphasizes on the financial sector of the Stock Exchange of Thailand, including banks, and non-banks such as brokerage firms and commercial finance companies. Results show that banks have managed their earnings during the past ten years to a larger extent, on average, than other financial companies. We blame stricter rules and regulation imposed on Thai banks by relevant regulatory bodies to be the main cause of such a phenomenon. Our time series regression results indicate that Thai financial firms can manage their earnings to deal with both good and bad market sentiments. This finding does not corroborate those often found in previous research.

Keywords: earnings manipulation, M-score model, financial sector of the Stock Exchange of Thailand

1. INTRODUCTION

The objective of this study is to use the Beneish M-score model, developed by Beineish (1999), to detect financial fraud. Our investigation emphasizes on the financial sector of the Stock Exchange of Thailand (SET), including banks, and non-banks such as brokerage firms and commercial finance companies. This sector is considered as one of the most important players of the Thai economic system. Financial companies drive the nation's economy by providing a safe foundation for individual and businesses to invest or deposit their money. In turn, these companies can use the money in their possession for loans. The ability for the public to receive these loans enables them to make purchases, which drives the economy at different level.

Since financial firms, particularly banks, are usually subjected to a set of strict regulations designed to create market transparency between financial institutions and the individuals and corporations with whom they conduct business, the chance of them performing a financial statement fraud, e.g., fictitious revenues, too low expense report, and so forth, is low. For this reason, previous earnings management studies (e.g., Burgstahler and Dichev, 1997; Kiatapiwat, 2010; Anh and Linh, 2016) tend to exclude financial institutions from their samples. However, several other studies on earnings manipulation (e.g., Morgan, 2002; Shen and Chih, 2005; Charoenwong and Jiraporn, 2009) argue that these highly-regulated firms still have an incentive to adopt earnings management in order to avoid violating regulations or to keep depositors from losing confidence in them.

Banks and other financial institutions in Thailand are supervised by the Bank of Thailand (BOT) under the Financial Institution Business Act B.E. 2551 (FIBA Act). These institutions must adopt corporate governance practices that are consistent with the guidelines issued by the BOT. In addition, all listed financial companies are administered by the Securities and Exchange Commission (SEC) under the Securities and Exchange Act B.E. 2535 (SEC Act). The SEC Act established both the SEC and the SET; the latter of which is the only institution authorized to operate a securities exchange in Thailand. Thailand is known to have a successful financial system that is protected by stringent

banking and securities laws governing the management of banks and other financial institutions listed on the SET.

Under the FIBA Act, banks in Thailand are subjected to substantially more regulatory requirements than other financial institutions and generally have more intricate regulatory structures other financial intuitions. For instance, Thai banks primarily run their business by lending money and accepting deposits. Other types of financial institutions in Thailand such as brokerage firms and credit card companies also conduct such activities, but at a relatively small amount. This means that Thai banks face potential liquidity problems and is exposed to the risk of widespread bank runs, much more than non-banks. To prevent the banking system in Thailand from experiencing future financial crises, the BOT requires that Thai banks set their capital framework in conformity with the Basel III capital standards. Thus, banks are considered highly regulated firms, whose non-performing loan ratio, capital adequacy ratio, liquidity ratio, etc., are more strictly regulated than other financial companies. In one respect, we could argue that it should be more difficult for banks to engage in earnings manipulation than for non-banks because banks' financial reports and corporate information are subjected to more public visibility than the normal listed firms (under the FIBA Act and underlying Code of Corporate Governance). In other respect, one might say that banks also have more incentive than non-banks to manipulate their earnings to satisfy regulatory requirements.

Our examination is divided into two stages. In the first stage, we use the M-score model developed by Beneish (1999) to calculate the extent to which earnings are manipulated by Thai financial institutions listed in the SET during the past ten years. This will allow us to ascertain the level of financial fraud engaged by these firms the period before the US subprime mortgage crisis arose, during the crisis period, and the post-crisis period. An attempt will also be made to compare the likelihood that the financial statements contain fraud between banks and other types of financial institutions. The second stage of our examination deals with macroeconomic factors that affect the probability of earnings manipulation revealed by two types of financial institutions. Banks and non-banks are investigated separately because their business operation is influenced by different factors. The influence of external macroeconomic factors during the crisis period is compared to that outside the crisis era.

We make several contributions to the existing literature on earnings management. First, other Thai studies on earnings manipulation have employed the aggregated accruals Jones model developed by Jones (1991), and the Modified Jones model developed by Dechow et al. (1995) that require an arbitrarily threshold criteria to investigate the existence of earnings management. In contrast, we use the M-score model to compute the probability that fraud is embedded in the financial statements, and then determine its statistical significance using the standard normal distribution. Second, we illustrate that financial and nonfinancial firms in Thailand exhibit different earnings manipulation behaviors. Our evidence implies that the regulation imposed on banking firms may alter their incentives to manage earnings. Hence, our study also contributes to the area of the literature that examines the impact of regulation on earnings reporting. Third, while other Thai studies only examine internal factors affecting the level of earnings management such as corporate governance and investor protection, we choose to emphasize on the effects from important macroeconomic factors that firms cannot control. Macroeconomic factors that affect earnings management behavior are those that affect the capital market sentiment. Our findings indicate that firms can manage earnings during both good and bad sentiment periods. Finally, we demonstrate the impact of the recent subprime financial crisis on the earnings management behavior.

The remainder of this paper is organized as follows. Section 2 discusses related literature that motivates the paper. Section 3 deals with hypothesis development based on previous studies. Section 4 explains research methodology employed and data sources. Section 5 provides empirical results and discussions, while Section 6 concludes the study.

2. RELATED LITERATURE

Earnings manipulation is usually referred to an effort made by firm managers or executives to manipulate earning figures in financial reporting via several accounting practices such as recognizing one-time non-recurring items, deferring or accelerating expense or revenue transactions, or using

other methods designed to influence short-term earnings (Aker et al., 2007). These accounting practices may be motivated from managerial opportunism in terms of taking advantage of compensation plans, e.g., overstating the reported profit in order to demonstrate the firm's performance and obtain incentive payments (Healy, 1985; Baker et al., 2003; Bregtstesser and Philippon, 2006; Kuang, 2008) and understating the reported earnings in order to reduce the current market price of the common stock, leading to the lower exercise price of stock options that allows managers to receive more benefits from the employee stock ownership plan (Baker et al., 2003). Earnings manipulation is a hot topic that has attracted the interest of academics, regulators, and practitioners worldwide since it negatively reflects the quality of earnings information, which is an important tool that helps investors make decisions in common stock investment (Chansarn & Chansarn, 2016).

The literature on earnings management specifies a number of ways to quantify the level of financial reporting fraud. Most measurement tools are based on accruals of companies, especially the aggregated accruals Jones model (Jones, 1991) and the Modified Jones model (Dechow et al., 1995). A weakness of these popular models is that they do not specify a threshold that indicates the existence of earnings management. M-score model is built by Beneish (1999) using interrelations between balance sheets, income statements and statement of cash flow to calculate the probability of accounting fraud. This means that the model does not require a subjective threshold to indicate the existence of fraud. Thus, several researchers (e.g., Warshavsky, 2012; Beneish et al., 2013; Paolone and Magazzino, 2014) believe that the M-score is a reliable tool to detect accounting fraud or to support editors and investment professionals. This is why the model has been applied to different listed companies worldwide in order to detect the existence of earnings management. Some recent examples of M-score studies include Beneish (1999) and Beneish et al. (2013) in the US, Paolone & Magazzino (2014) in Italy, and Anh & Linh (2016) in Vietnam.

The body of literature on earnings manipulation is large and can be broadly categorized into two groups. The first literature network emphasises the effects of income fraud on a number of variables. Several researchers examine the influence of earnings management on dividend policy of listed companies. Contrasting results have been reported. For example, Morghri and Galogah (2013) and Chansarn and Chansarn (2016) argue that earnings management positively influences dividend policy of listed companies, while Savov (2006) find a negative impact of income manipulation on dividend payments.

Different opinions have been reported regarding whether or not earnings management is beneficial to the firm value. Magrath and Weld (2002), Yaping (2006), and Jiraporn et al. (2008) find that earnings management benefits the firm. The rationale behind this notion is that earnings management reduces the volatility of earnings, which in turn, will lower the level of firm perceived risks by investors and increase the value of the firm. On the other hand, Beneish et al. (2013) provide empirical evidence that companies with a higher probability of accounting fraud earn lower returns on every decile portfolio sorted by size, book-to-market, momentum, accruals, and short interest. The reason is that that fraudulent financial reporting imposes huge costs on financial markets. These accounting misrepresentations increase transaction costs by eroding investor confidence in the integrity of the capital markets.

Another research camp of earnings management investigates different factors affecting the level of accounting fraud. Several researchers, e.g., Beasley (1996), Xie et al. (2003), Peasnell et al. (2005), Ahmed et al. (2006), Shen and Chih (2007), Wang et al. (2011), Hazarika et al. (2012), and Mohamad et al. (2012), attempt to find the influence of corporate governance on earnings management. The general conclusion is that corporate governance has provided the important role to reduce managerial opportunism. Good corporate governance elements such as board members from financial institution or institutional shareholders, board members with financial backgrounds, and frequent board meetings can effectively help to restrain the earnings management activities.

Similarly, several previous studies, e.g., Shen and Chih (2005), Defond et al. (2007), and Leuz et al. (2013), reveal that investor protection also plays the important role in restricting earnings management behavior. In particular, countries or industries with strong investor protection in either outside investor rights or legal tend to have a lower level of aggregate earnings management measures.

There are also several recent studies that investigate the impact of exogenous macroeconomic factors on earnings management behavior, such as human and economic development, economic freedom (Riahi-Belkaoui, 2004); legal system, including the rules and their enforcement (Leuz et al., 2003); cultural values (Han et al., 2010) and; audit quality (Tendeloo & Vanstraelen, 2008). Other recent studies attempt to document the interplay between the sentiment of market participants, especially during economic or financial crises, and financial reporting choices of management (e.g., Han and Wang, 1998; Gassen and Markarian, 2009; Choi et al., 2011; Silva et al., 2014). Results generally imply that in high-fear periods, managers tend to exhibit earnings management behaviors. The motivation for such fraudulent practices is, for example, to adjust earnings in order to avoid negative impact of higher political costs (Han & Wang, 1998; Chen et al., 2011).

In Thailand, there are several studies conducted on earnings manipulation. Recent examples include Charoenwong and Jiraporn (2009) that conduct the t-like statistic test to seek evidence of earnings management to report zero or positive profits in financial institutions and non-financial companies, Kiatapiwat (2010) that investigates the association of controlling shareholders & audit committee effectiveness and earnings quality in non-financial firms, Tangjitprom (2012) who examines the role of investor protection and corporate governance on reducing the level of earnings management, Likitwongkajon and Sutthachai (2015) that explore whether the adoption of International Financial Reporting Standards mitigate accrual earnings management, and Chansarn and Chansarn (2016) that scrutinize how earnings management affects dividend policy of small and medium enterprises. By going through the literature on Thai studies of earning managements, it has been found that there are too few studies which focus on the influence of external macroeconomic factors on firms' earnings management. Most Thai studies also employ the Jones model and the Modified Jones model to calculate the level of earnings manipulation. These popular measurement frameworks, however, do not allow researchers to verify the statistical significance earnings manipulation. Furthermore, there have never been genuine attempts to determine the behavior of earnings management in Thailand during a period of the latest subprime mortgage crisis; a global phenomenon that chiefly affected financial institutions worldwide. We make an effort to fill these literal gaps.

3. HYPOTHESIS DEVELOPMENT

Previous research has pointed out that incentives to earnings management practices stem from the environment in which managers operate, e.g., capital markets, contracts and political or regulatory costs (Watts & Zimmerman, 1978; Healy & Wahlen, 1999; Chen et al., 2001). It is therefore expected that events that change the environment, would affect incentives for fraudulent reporting behavior.

The first hypothesis is built from the observation that banks in Thailand are governed under more sophisticated rules and regulations than non-banks, and the analysis of previous studies in the previous section, especially the results of the research by Nikomborirak and Tangkitvanich (1999), Charoenwong and Jiraporn (2009); Chen et al. (2011) which observe that stricter rules and regulations may alter firms' incentives to manage earnings. We therefore hypothesize that banks are more likely than other financial firms to engage in earnings manipulation. In summary, we predict that

Hypothesis 1. There is a statistically significant difference in M-scores (used as proxies for earnings management behaviour) between banks and non-banks. Banks are expected to be statistically more likely than other financial companies to manipulate earnings because they are governed by more sophisticated regulations or, in other words, they face higher political costs.

The second hypothesis deals with an expected change in earnings management behavior when market sentiment changes. For example, Han and Wang (1998), and Johl et al. (2003) observe changes in

earnings management behaviour in the oil crises of the 90s and the Asian crisis of 1997 respectively. In addition, Gassen and Markarian (2009) find that managers report larger absolute abnormal accruals when market sentiment worsens in order to meet and beat consensus forecasts. Based on results of these previous studies, the following research hypothesis is propose.

Hypothesis 2. Events that worsen market sentiment significantly increase M-scores (used as proxies for earnings management behaviour) of firms in the financial sector of the SET. For example, financial companies are expected to be more likely to engage in earnings management activities during the crisis period, or when surrounding capital market environment worsens.

4. RESEARCH DESIGN

In this section, we present the methodological procedures for the development of the research. Initially, we present the operational definition of the variables, followed by the regression models used to analyze the data, and sample selection.

4.1 Variable definitions

In order to develop our regression models and establish the sample selection criteria, we first defined the operational variables in three groups: dependent variable, independent variables or variables of interest and control variables.

4.1.1 Dependent variable

To test our hypotheses, we use the manipulation score ("M-score") as our dependent variable. M-score is calculated by using the following (unweighted) probit model, as in Beneish (1999).

$$M\text{-score} = -4.84 + 0.920(DSR) + 0.528(GMI) + 0.404(AQI) + 0.892(SGI) + 0.115(DEPI) - 0.172(SGAI) + 4.679(Accruals) - 0.327(LEVI) \quad (1)$$

The model features eight accounting-based variables, each of which is constructed so that higher values are associated with a greater chance of earnings manipulation. A description of the variables and the rationale for their inclusion are provided in Table 1. If the *M-score* is greater than the benchmark value of -2.22, the company should be flagged as the earnings manipulator.

The probability of earnings manipulation for a particular M-score can be computed using the following formula:

$$Prob(\text{Earnings Manipulation} | M\text{-score}) = \Phi(M\text{-score}) \quad (2)$$

where Φ is the cumulative distribution function of the standard normal distribution. For example, $\Phi(-1.96)$ is 0.025, indicating a 2.5% chance that the company is fraudulently reporting.

Table 1

Description of variables used to compute the M-score and rationale for inclusion.

Variable	Description	Rationale
<i>DSR</i>	$\frac{[Receivable_t / Sales_{t-1}]}{[Receivable_{t-1} / Sales_{t-1}]}$	An increase in <i>DSR</i> can be a result of revenue inflation.
<i>GMI</i>	$\text{Gross margin}_{t-1} / \text{Gross margin}_t$ where Gross margin = 1 – costs of goods sold/sales.	If <i>GMI</i> > 1, the company has deteriorating margins, which induce managers to manipulate its revenue.
<i>AQI</i>	$\frac{[1 - PPE_t + CA_t / TA_t]}{[1 - PPE_{t-1} + CA_{t-1} / TA_{t-1}]}$ where <i>PPE</i> is net plant, property and equipment, <i>CA</i> is current assets, and <i>TA</i> is total assets.	If <i>AQI</i> > 1, the company has a tendency of avoiding expenses by capitalizing and deferring costs to preserve profitability.
<i>SGI</i>	$Sales_t / Sales_{t-1}$	If <i>SGI</i> > 1, the company has a positive growth, which induces managers to manipulate sales and earnings in order to preserve the perception of continuing growth.
<i>DEPI</i>	$Depreciation\ rate_{t-1} / Depreciation\ rate_t$ where <i>Depreciation rate</i> equals <i>Depreciation</i> / (<i>Depreciation</i> + <i>PPE</i>).	If <i>DEPI</i> > 1, the company has declining depreciation rates, which is a sign of income-increasing manipulation.
<i>SGAI</i>	$\frac{[SGA_t / Sales_t]}{[SGA_{t-1} / Sales_{t-1}]}$ where <i>SGA</i> equals sales, general and administrative expense.	If <i>SGAI</i> > 1, the company has decreasing administrative and marketing efficiency, which induces managers to manipulate earnings.
<i>Accruals</i>	$\left(\frac{\text{Income before extraordinary items} - \text{Cash from operations}}{TA_t} \right)$	<i>Accruals</i> capture the degree to which accounting profits are not supported by cash profits

Table 1 (continued)

Description of variables used to compute the M-score and rationale for inclusion.

Variable	Description	Rationale
<i>LEVI</i>	$\text{Leverage}_t / \text{Leverage}_{t-1}$ <p>where <i>Leverage</i> is calculated as total debts to total assets.</p>	<p>If $LEVI > 1$, the company has increasing leverage, which induces managers to manipulate earnings in order to loosen debt constraints.</p>

4.1.2 Independent variables

According to our hypotheses, the independent variables of interest are exogenous macroeconomic variables that affect the sentiment of market participants.

First, we use the period covering the subprime mortgage crisis as the basis for the dummy variable *Subprime*. In particular, we define *Subprime* as a dummy variable that equals 1 if the quarter is between fourth quarter of 2007 to second quarter of 2009, and 0 otherwise. If the companies are more sensitive during fear-periods, the regression coefficient of the dummy *Subprime* will be significantly positive.

In addition, several exogenous macroeconomic variables are inserted to address the interplay between market sentiment and firm's incentive to manipulate earnings. These sentiment indicators include the quarterly trading value in the SET (*Fund*) and the SET index (*Index*). Note that the variable *Fund* is used in logarithmic scale in order to linearize its relation with the dependent variable. Based on previous research, we expect these variables to produce negative regression coefficients. In particular, companies are more likely to manage their earnings results during bad sentiment periods, signaled by lower *Fund* and lower *Index*.

4.1.3 Control variables

Based on previous research, we control for the following variables:

Accruals during the previous period (*B-Accruals* for banks and *NB-Accruals* for non-banks). Previous research has indicated that the higher the accruals during the previous period, the less possible it is for managers to introduce accounting policies capable of increasing current earnings (Dechow et al., 1995; Sloan, 1996). Thus, we expect this variable to produce a significantly negative coefficient.

The leverage (*B-Leverage* for banks and *NB-Leverage* for non-banks) is also included as a control variable, obtained as the ratio of total debts over total assets. Previous research has shown that leverage is positively associated with earnings management (Dechow et al., 1995, 1996; Bartov et al., 2000). In particular, companies that face the risk of violating their debt contracts are more likely to use fraudulent accounting practices in order to shift future earnings to the current period to avoid default costs.

In the banking sector, we also control for the capital adequacy ratio (*Cap*), calculated as the ratio of the sum of tier one capital and tier two capital over risk-weighted assets. This variable is used to account for differences in levels of fraudulent reporting due to the strict regulatory environment that governs Thai banks.

The main variables and their definitions are shown in Table 2.

Table 2
The Variables

Variable	Name	Symbols	Definitions
Dependent variable	M-scores	<i>B-Mscore</i> for banks <i>NB-Mscore</i> for non-banks	Calculated by Beneish's (1999) M-score model
Independent variables	Quarterly trading value in the Stock Exchange of Thailand	<i>Fund</i>	Equals logarithm of quarterly trading value in the Stock Exchange of Thailand
Independent variables	Set Index	<i>Index</i>	Equals the set index level on the last day of the quarter
	Periods pertaining to the subprime mortgage crisis	<i>Subprime</i>	Equals 1 if quarter is between fourth quarter of 2007 to second quarter of 2009; and 0 otherwise
Control variables	Capital adequacy ratio	<i>Cap</i>	Sum of tier one capital and tier two capital divided by risk-weighted assets
	Accruals of previous period	<i>B-Accruals</i> for banks <i>NB-Accruals</i> for non-banks	Accruals of previous period divided by assets of previous year
	Asset-liability ratio	<i>B-Leverage</i> for banks <i>NB-Leverage</i> for non-banks	Total liabilities divided by total assets

4.2 Regression analysis

Using (1), the time series of M-scores for each financial company in the sample can be estimated. To test **Hypothesis 2**, the effect of market sentiment on earnings management behavior is estimated by the time-series regression between M-scores and sentimental factors, specifically measured by three variables: Fund, Index, and Subprime; and also considering the assumption of control variables:

Cap, *Accruals*, and *Leverage*. In particular, the following time series regression models are used to test **Hypothesis 2**:

$$B\text{-}Mscore_t = \beta_0 + \beta_1 Fund_t + \beta_2 Index_t + \beta_3 Subprime_t + \beta_4 Cap_t + \beta_5 B\text{-}Accruals_t + \beta_6 B\text{-}Leverage_t \quad (3)$$

for banks, and

$$NB\text{-}Mscore_t = \delta_0 + \delta_1 Fund_t + \delta_2 Index_t + \delta_3 Subprime_t + \delta_4 NB\text{-}Accruals_t + \delta_5 NB\text{-}Leverage_t \quad (4)$$

for non-banks. Note that all variables in (3) and (4) are computed as the average across all firms. According to **Hypothesis 2**, *Fund*, *Index*, and *Subprime* should be significantly positive.

4.3 Sample selection and data description

The study covers the period of third quarter of 2004 to second quarter of 2015 (44 quarters) for listed companies in the financial sector of the SET. Totally, 11 banks and 31 non-banks (of which, 18 are commercial finance companies, and 13 are brokerage firms) are analysed as shown in Table 3.

Table 3

List of companies under investigation

Banks	Non-banks	
	Commercial finance companies	Brokerage firms
BAY	AEONTS	AEC
BBL	AMANAH	ASP
CIMBT	ASK	CNS
KBANK	BFIT	FNS
KKP	ECL	FSS
KTB	GL	GBX
SCB	IFS	KGI
TCAP	KCAR	MBKET
TISCO	KTC	MFC
TMB	ML	TNITY
LHBANK	PE	UOBKH
	PL	ZMICO
	THANI	CGH
	TK	
	S11	
	JMT	
	MTLS	
	SAWAD	

Note. Full company name can be obtained from the official website of the Stock Exchange of Thailand (www.set.or.th).

Quarterly data on financial and economic variables that constitute dependent variable, independent variables, and control variables in our regression models are retrieved from SETSMART (SET Market Analysis and Reporting Tool) or the web-based application from the SET that can seamlessly integrate comprehensive sources of Thai listed company data, i.e., historical stock prices, historical indices, listed company profile, and historical news.

5. RESULTS AND DISCUSSIONS

In this section we present the results of data analysis. Initially, we conduct a descriptive analysis to show the behavior of the variables used in the models. Then we test the hypothesis for the equality between two M-score means. Finally, results of the time series regression models used to evaluate the hypotheses are presented.

5.1 Descriptive statistics

Table 4 lists the descriptive statistics of the main variables used in this study. Table 4 shows that the mean and the median of M-scores for banks are greater than those for non-banks. This means that on average, Thai banks have a higher chance of manipulating their earnings than other financial companies in Thailand. This result is supported by measures of central tendency for accruals and leverage. As indicated by previous research, leverage is positively associated with earnings management (Dechow et al., 1995, 1996; Bartov et al., 2000), while higher accruals during the previous period make it harder for managers to manipulate earnings (Dechow et al., 1995; Sloan, 1996). We therefore see in Table 4 that the mean and the median of leverage for banks are greater than those for non-banks. The opposite is true in the case of accruals.

Table 4
Descriptive statistics of the main variables

Variable	N	Mean	Median	Maximum	Minimum	Standard deviation
<i>B-Mscore</i>	44	-2.410	-2.455	-2.000	-2.677	0.175
<i>NB-Mscore</i>	44	-2.732	-2.490	-2.020	-5.050	0.687
<i>Fund</i>	44	28.005	27.912	28.954	26.993	0.461
<i>Index</i>	44	1,159.43	1,009.72	2,300.13	406.10	491.25
<i>Subprime</i>	44	0.115	0.000	1.000	0.000	0.323
<i>Cap</i>	44	15.457	15.628	18.043	12.160	1.327
<i>B-Accruals</i>	44	0.0012	0.0015	0.0277	-0.0372	0.0148
<i>NB-Accruals</i>	44	0.0109	0.0106	0.0554	-0.0608	0.0236
<i>B-Leverage</i>	44	1.000	1.000	1.006	0.993	0.003
<i>NB-Leverage</i>	44	0.820	0.884	1.112	0.376	0.196

Note. Variables are defined in Table 2. The value of *Cap* is presented as a percentage. The variable *Fund* is used in logarithmic scale in order to linearize its relation with the dependent variable.

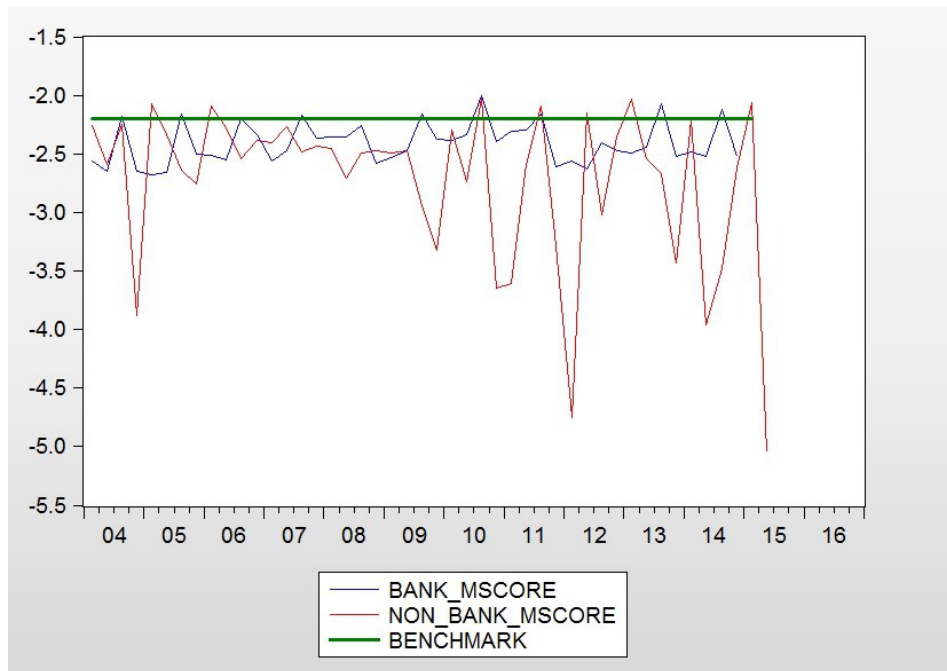


Figure 1. M-scores for banks and non-banks during the study period.

Note. The blue line shows the M-score time series for banks, while the red line illustrates the M-score time series for banks. The benchmark value of -2.22 is presented by the green line. M-score values that exceed this benchmark indicate statistically significant fraudulent reporting.

On the other hand, the standard deviation of M-scores for banks over the study period is smaller than that for non-banks, indicating smaller variation in the level of fraudulent reporting practices adopted by banks relative to other financial companies. This phenomenon is also confirmed in Figure 1 that shows time series plots of M-scores for both types of financial institutions during the period of 2004–2015. Figure 1 clearly illustrates that the volatility of M-scores for banks has been less than that for non-banks. Overall, descriptive statistics measuring central tendency and variation of M-scores suggest that Thai banks have managed earnings to a larger extent than other financial companies in Thailand. The manipulative behavior for non-banks however has been more volatile than that for banks.

Figure 1 also reveals that there are several reporting periods where the level of earnings management in the financial sector of the SET exceeds the benchmark value of -2.22 (5 periods for banks and 8 periods for non-banks). This shows that there is a presence of earnings management among Thai financial firms in the past ten years. When we test for equality of means between two M-score series, the t-statistic is -3.012 with a p-value of 0.0034. We therefore conclude that there is a statistically significant difference in M-scores between Thai banks and other financial firms in Thailand at 5%. This finding is consistent with our **Hypothesis 1** and the results of previous research by Nikomborirak and Tangkitvanich (1999), Charoenwong and Jiraporn (2009), and Chen et al. (2011) which observe that stricter rules and regulations incentivize underlying firms to manipulate their earnings to a larger extent.

5.2 Regression results

The regression results of models (3) and (4) are displayed in Table 5. General econometrics problems such as unit root, serial correlation and heteroscedasticity may result in biased parameter estimates or biased inferences, and therefore need to be addressed. Original variables have been transformed using first-difference or natural logarithm to deal with these problems. We use $D(X)$ to denote the first difference of variable X and $LN(Y)$ to denote the first difference of variable Y . The Durbin-Watson statistic in both regressions is very close to 2, while the Breusch-Pagan-Godfrey F statistic in both

regressions is not significant at 5%. These statistics indicate that both serial correlation and heteroscedasticity are not present.

Table 5

Regression of exogenous macroeconomic variables on M-scores in banks and non-banks

Variable	Banks		Variable	Non-banks	
	Coefficient	T value		Coefficient	T Value
Intercept	-5.848***	-3.269	Intercept	-1.856***	-3.656
D(Fund)	0.196**	2.579	D(Fund)	0.893*	1.943
LN(Index)	-0.276***	-2.994	D(Index)	-0.00274*	-1.691
Subprime	-0.119	-1.312	Subprime	-0.0215	-0.067
Cap	-0.00743	-0.316	D(NB-Accruals)	-1.628	-0.370
D(B-Accruals)	-2.471	-1.147	NB-Leverage	-1.010*	-0.0671
D(B-Leverage)	-3.621	-0.663			
R ²	0.258		R ²	0.185	
F value	1.911		F value	1.726	
Durbin-Watson statistic	1.982		Durbin-Watson statistic	2.364	
Breusch-Pagan- Godfrey F statistic	1.971		Breusch-Pagan- Godfrey F statistic	1.583	

Note. *, **, and *** represent significance at the 10 percent, 5 percent, and 1 percent levels respectively. The Durbin-Watson statistic in both regressions is very close to 2, indicating that there is no autocorrelation. The Breusch-Pagan-Godfrey F statistic in both regressions is not significant at 5%, indicating that heteroscedasticity is not present. Original variables, defined in Table 2, have been transformed using first-difference and natural logarithm to deal with unit root. $D(X)$ represents the first difference of variable X . $LN(Y)$ denotes the logarithmic representation of variable Y .

Results of the t-tests show that coefficients for (transformed) variables *Fund* and *Index* are statistically significant in both regressions. The variable *Fund* shows negative signal, indicating that Thai financial firms have more incentive to manipulate earnings when market sentiment worsens. This finding corroborates that suggested by Gassen & Markarian (2009). In contrast, the variable *Fund* shows positive signal indicating that Thai financial firms tend to manage more results when the quarterly trading value in the SET increases, which provides good market sentiment. We conclude that it is not always true that bad market sentiment creates an incentive for firms to exhibit fraudulent reporting behavior. Good sentiment can also lead to the manipulative behavior. As suggested by Burgstahler and Dichev (1997) regarding the “benchmark beating” game during the dot.com era,

firms that meet the market benchmark or exceed them tend to have their stock prices increasing, while companies that miss the forecast are likely to have their stock prices tumbling. During good sentiment periods when forecasts might be overly optimistic, firms might be tempted to manipulate their earnings upward to meet these hopeful forecasts to avoid negative price effects. Based on these findings, our **Hypothesis 2** is only partially supported.

Table 5 reveals that the coefficient for the dummy variable, *Subprime*, is not statistically significant in both regressions. This means that the subprime mortgage crisis has no influence on the earnings management behavior in Thai financial institutions. As mentioned by Nikomborirak and Tangkitvanich (1999), improved corporate governance and imposition of stricter rules and regulations by the Stock Exchange Commission of Thailand after the Asian financial crisis can be the main reason for the absence of earnings management behavior during subsequent crises.

Regarding the significance of our control variables, only *Leverage* is statistically significant in the case of Thai non-banks. This is contradicting our initial prediction that the asset-liability ratio is positively associated with earnings management. However, the presence of creditors could inhibit opportunistic behaviour of managers as noted by Jensen (1986). Some previous studies have also found a tendency for managing earnings during periods of low leverage (Dechow & Skinner, 2000; Jelinek, 2007).

6. CONCLUSION

In this paper, we use the Beneish's (1999) M-score model to compute the chance that Thai financial institutions will commit fraudulent reporting behavior during the past ten years. We find that there are several periods in which financial institutions in Thailand have managed their earnings to the extent that exceeds an acceptable benchmark. Also found is that Thai banks significantly manage their earnings to a larger extent relative to other financial firms in the same sector. This is consistent with the result indicated by previous research that stricter rules and regulations incentivize firms to manage earnings.

Next, we examine whether worsened market sentiment will encourage Thai financial firms to engage in earnings management by running time series regressions of M-scores on factors that affect the market sentiment and some control variables. Results show that coefficients associated with the SET index and the quarterly trading value are statistically significant. Both variables however give opposite signal with regard to how earnings management behavior is affected by characters of market sentiment. Our study reveals that managers have incentive to manage earnings in both good and bad sentiment periods; a result that is partially consistent with those reported by previous studies that higher level earnings manipulation is observed during high-fear periods.

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THE UTILITY FUNCTION OF THAI FARMER AND APPLICATION ON CROP INSURANCE PREMIUM

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ABSTRACT

This study uses certainty equivalent approach to estimate the utility function of Thai smallholder farmers in seven provinces of North Eastern region. I find that the negative exponential function (EXP) can explain risk aversion better than the log of the inverse power transformation function (IPT). Based on 279 samples, nearly half of them are risk lovers. The factors to determine risk aversion vary by provinces. There is no common factors that contribute to risk aversion among provinces. However, the common factors that lower risk aversion are the size of family, other income. This is consistent with the hypothesis firstly introduced in this study that farmers in developing countries diversify their risk through other sources of off-farm income.

1. INTRODUCTION

Farmers in developing countries always face risk in their production. The risks include variability in output prices and uncertain yields due to uncertain rainfall and natural disasters. To support the farmers on production risk, many governments subsidize farmers to buy crop insurance. Thai government has initiated crop insurance scheme on and off since 1978. The policy has been jointly developed by the government and non-life insurance industry.

In 2015, the government has allocated the budget to support the farmers to purchase crop insurance for 1.5 million rai whereas actual rice fields are around 60 million rai. Bank of agriculture and cooperatives (BACC) is responsible for selling the crop insurance through its branches. It is the only year since the program was launched that farmers' participation meets the quota thanks to the worries of draught. The scheme in the past failed to meet the target as the insurance is based on voluntary of the farmers.

One of the main problem in low participation is due to expensive premium charged by the insurance industry. Seven companies in the association of non-life insurance participated in the 2015 scheme. The 2015 crop insurance covers multi-peril such as drought, flood, and others. The compensation is 1,111 Baht per rai for natural causes and 555 Baht for pest. The premiums vary by the risk in each area. Based on 8-year historical data, there are five areas with different premiums ranging from 124.12 Baht to 483.64 Baht. Of these, the government subsidizes around eighty percent of the premium and farmers pay the rest. Low participation of farmers in previous years are blamed for high premium since the insurers cannot pooling the risk. In order to get the compensation, the governor must declare the area is under disaster. Farmers will obtain compensation from two sources. First, all farmers in the area regardless of their insurance purchase will be given 1,113 Baht per rai from the government. Second, only those who bought crop insurance will get additional 1,111 Baht per rai as indemnity from private insurers.

This study surveys Thai farmers as representatives of farmers in developing countries. The year 2015 of crop insurance is selected for the survey since it is the only year that all insurances covering 1.5 million rai are sold out thanks to the drought threat since the beginning of the year.

The objectives of this paper are the followings. First, what are the shape of utility function of farmers in developing countries and how much they willing to pay for crop insurance? Second, what are factors determining their risk preferences? Third, is there any linkage between risk aversion and their decision to buy a crop insurance?

This paper consists of five sections. The next section will review the literature on how to estimate the utility function and the empirical study on the issue and the demand for crop insurance. Section three will describe the scope of the study and the methodology. Section four presents the results and the discussion are concluded in the last section.

2. LITERATURE REVIEW

The utility function is the satisfaction measurement of the subject with respect to his wealth. Rational person is presumed that he shall be more satisfied when his wealth increases. This results in positive value of the first derivative of utility function. When wealth increases to certain level, however, the change in increased satisfaction might decline or increase. The second order derivative can be used to judge if the person is risk averse or risk lover. If the second order derivative of utility function is negative, the person is risk averse. If it is positive, the person is risk lover. Theoretically, there shall not be any risk lover person.

Since the utility function is unobserved, several methods have been proposed to estimate the utility function. Three methods prevail in the literature. First, direct elicitation of the utility function is the method which the researcher will ask the subject to state the indifferences between a series of risky outcomes and sure outcome. An individual function can be estimated by regression. Second, experimental method in which real money is used to measure the preference rather than the hypothetical outcome. Binswanger (1980) use this method to estimate utility function of Indian farmers. Third, observed economic behavior in which the utility function is estimated from econometric models that incorporate risk attitude parameters along with other observed parameters.

The studies that use this approach include Chavas & Holt (1990, 1996), Pope & Just (1991) and Lence (2000).

This study uses the first approach with computer guided questionnaire suggested by Pennings and Scmidts (2003) to collect the data.

In order to understand the decision to buy crop insurance of farmers in developing countries, I survey the literature on demand for catastrophic insurance. In previous literature, I classify the factor determining the decision to buy catastrophic insurance into five groups. The first group use characteristics of the subject such as level of risk aversion, gender, age, or educational background to explain the decision to buy. Kunreuther et al (1978) propose the idea of inoculation effect in the sense that the subject consider catastrophic risk as a rare event. Once it happens, it is less likely to happen again. This second hypothesis proposes that once the risk happened, people will purchase less insurance in the year after. On the contrary, Hogarth (1987) proposes the idea that the subject considers catastrophic risk as an investment rather than protection. Therefore, if the risk once happens, the subject considers the risk is more likely to happen again and buy insurance to speculate the windfall gain from indemnity. There is also the hypothesis from behavioral finance called mental accounting. Thaler (1985) proposes that the subject separates the budget to buy any product. If the subject really acts according to mental accounting, one should expect the subject shall buy less insurance if he already buys other insurances. Affordability is another hypothesis that is used to control the effect on the decision to buy.

This study is the first to propose self-risk management of the subject as alternative explanation of farmers' decision to buy crop insurance in developing countries. I argue that farmers in developing countries are more prone to risk in comparison with their counterparts in developed countries. Many developing countries have even adopted the policy to develop the country through industrialization. In so doing, the country needs to keep cost of labor at the bottom to induce foreign investment. Export of agricultural product might be restricted in order to pressure local price from high supply. Farmers in those countries have borne the cost of the industrialization with less government support. They, however, have survived by initiating the self-risk management. Crop diversification, other sources of income from some family members who work in factory are examples of the self-risk management.

3. METHODOLOGY

The study will estimate the utility function of Thai farmer by means of certainty equivalent as being suggested by Pennings and Scmidts (2003). The computer-guided questionnaire is used to collect the data of 381 North Eastern farmers in October 2015. Two non-linear utility functions, namely, negative exponential function (EXP), and log of the inverse power transformation function (IPT), are estimated for comparison purpose.

The results will allow us to investigate the risk behavior of Thai farmers. One can identify if Thai farmers are risk averse or risk lover by measuring the sign of their second order derivative of utility function with respect to wealth.

In order to find the factor determining the farmer’s risk aversion, I calculate the absolute risk aversion by (1) from the utility function.

The premium that Thai farmers are willing to pay will be estimated from their utility functions to be described in the next section.

To solve the puzzle why many risk lovers actually bought crop insurance in 2015, I construct the model based on six explanatory factors. I argue that farmer’s self-risk management might play an important role in the decision to buy crop insurance. Figure 1 formulates an empirical model to be estimated by probit regression.

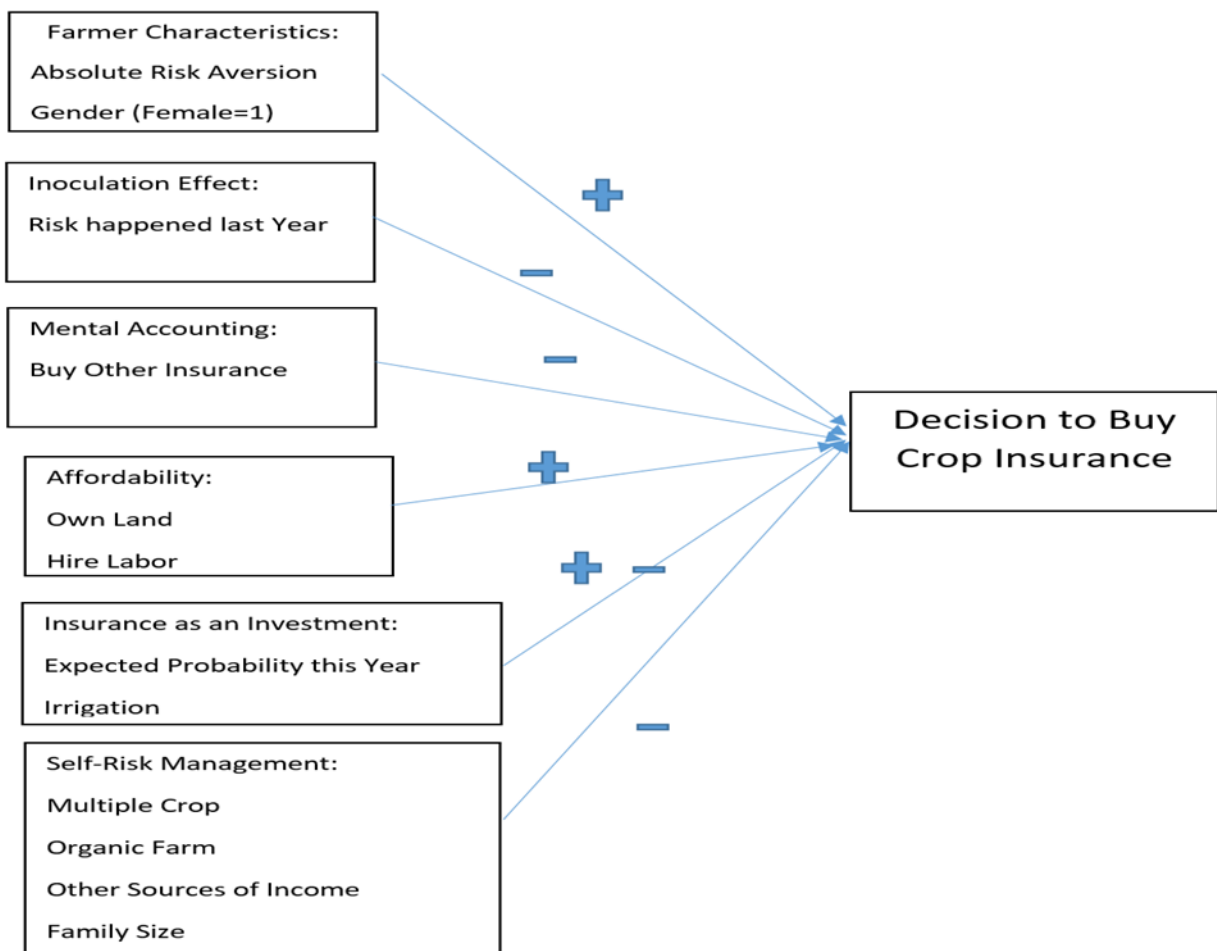


Figure 1. The Framework of Decision to Buy Crop Insurance.

4. EMPIRICAL RESULTS

Table 1 shows data of Thai farmer in this study. The data is collected from those who buy crop insurance in 2015 and those who do not buy in seven provinces, namely, Chayapum, Khonkaen, Udonthani, Roi-et, Srisaket, Surin, and Burirum. There are 381 farmers who were interviewed. Most of them are from Chayapum. The number of those who buy insurance is 197 while those who do not buy is 184.

Table 1
Thai Farmer Sample in Seven Provinces

	Chayapum	Khonkaen	Udonthani	Roi-et	Srisaket	Surin	Burirum	All
Buy Crop Insurance	40	33	43	14	13	31	23	197
Do Not Buy Insurance	30	26	16	42	50	9	11	184
Total	70	59	59	56	63	40	34	381

The characteristics of the sample is shown in Table 2.

Table 2
Characteristics of Thai Farmers

	Sample	Average Yield per Rai	Cost per Rai	Number of Family Member	Age	Gender		Other Income		Buy Other Insurance		Average Rice Field	Rent	Irrigation		Organic Farm		Other Crop		Hire Other	
						Male	Female	Yes	No	Yes	No			Yes	No	Yes	No	Yes	No	Yes	No
Buy	197	253.43	14868.04	32.25	56.94	76	119	154	42	133	64	130.81	54	23	174	80	117	80	117	51	146
Do Not Buy	184	263.14	13637.35	31.93	52.31	94	85	160	24	116	68	117.12	37	16	168	98	86	103	81	47	137

Table 3 shows the overall estimation results of the utility functions and the absolute risk aversion.

Table 3
Shape of Utility Functions and Absolute Risk Aversion (ARA) of Farmers

		EXP			IPT		
		A	B	c	a	b	k
Parameter							
	Mean	-1.0094189	1.01278856	0.03025284	0.00028072	2.19573706	0.02499749
	Median	2.98045302	-2.979478	0.07431658	0.0002188	2.17362821	-0.0258422
Fit Indices							
	Mean MSE	0.00028072			0.00171625		
	Median MSE	0.0002188			0.0009478		
	Mean R2	0.99723386			0.98494036		
	Median R2	0.99783126			0.98590232		
ARA							
		EXP			IPT		
Range							
	Minimum	-0.4481143			-1.2830752		
	Maximum	0.50674133			66.8105142		
	Mean	0.03025284			3.1504552		
	SD	0.21512619			6.38116879		
	Number of farmer's utility function estimated	279			247		
	Risk Aversion	146			231		
	Risk Preferred	133			16		

Judging from the R-squared and the MSE of the model, EXP model slightly outperforms the IPT. Based on the EXP model, the numbers of risk averse farmers and risk lovers are 146 and 133, respectively. However, only 16 risk lovers are found in the IPT model. The result is highly sensitive of the functional form used in the model. The IPT is an S-shape function whose second order derivative depends on the wealth. In this case, wealth is estimated from the average yield multiplied by the growing area and an average price in that area. All of them are beyond the inflection point. Therefore, it is not surprising to see just only few sample are risk lover in the IPT function.

Figure 2 shows the concept of certainty equivalent and how to derive risk premium farmers' willingness to pay. There are two mutually exclusive situations. First, the perils happen and all farmers receive 1,113 Baht per rai from the government fund regardless of their insurance scheme. Second, the perils do not happen and the farmers earn their income based on their yields (which are different) multiplied by the market price of rice. Given the probability of perils event, expected wealth of farmer without crop insurance can be computed from the weighted average of minimum compensation 1,113 Baht and his earning in the event when perils do not occur. On the other hand, farmer can attain equal satisfaction by purchasing crop insurance and receive certain earning regardless of the perils outcome. This can be shown by expected utility of particular wealth, $E(U(W))$. This wealth is certain so it is called a certainty equivalent of the former case when farmer takes risk.

Figure 2 shows that a risk averse farmer will be willing to receive lower amount of wealth (CE) to get protection from crop insurance sellers. The difference between expected wealth, $E(W)$, and certain wealth (CE) is a risk premium (RP) that this farmer is willing to pay to insurers. In addition, the difference between CE and the minimum wealth, 1,113 Baht in this case, reflects the indemnity he expects from the insurers when perils happen.

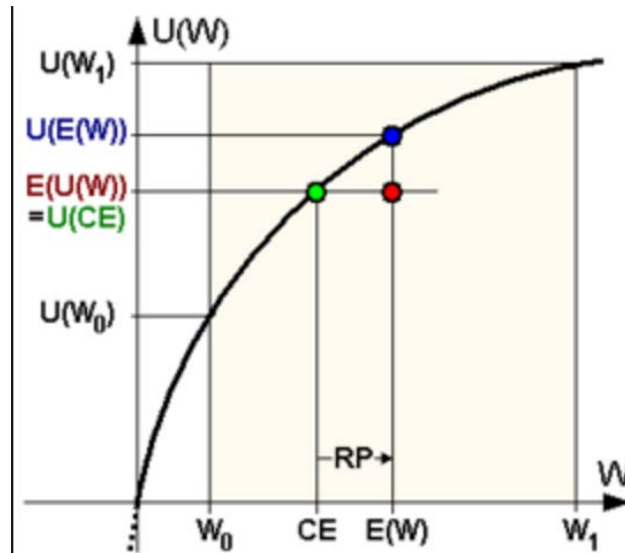


Figure 2. Certainty Equivalent, Risk Premium and Expected Indemnity.

Table 4 shows risk premium and expected indemnity based on the utility function found in Table 3 at different probabilities of perils outcome. It shall be noted that the premium farmers are willing to pay, on the average, is much lower than actual premium insurers collected in 2015. Expected indemnity is also far higher than the actual rate of 1,111 Baht per rai promised by the insurers.

Table 4
Risk Premium and Expected Indemnity

	10%		20%		30%		40%		50%	
	RP	EP	RP	EP	RP	EP	RP	EP	RP	EP
Average	17.12	3,379.52	30.11	2,989.12	39.12	2,602.71	44.27	2,220.16	45.67	1,841.36
s.d.	22.77	1,908.40	39.66	1,681.82	51.02	1,459.31	57.20	1,240.65	58.48	1,025.65
Min	0.09	369.81	0.15	328.65	0.20	287.50	0.23	246.37	0.24	205.26
max	175.10	9,805.74	302.33	8,657.90	385.79	7,525.55	429.08	6,408.27	435.36	5,305.67
mode	2.49	3,809.82	4.41	3,367.71	49.36	2,930.54	56.00	2,498.20	57.91	2,070.59
median	9.38	3,055.28	16.61	2,708.26	21.69	2,363.18	24.69	2,020.00	25.60	1,678.73

Note: RP = Risk Premium
EP = Expected Indemnity

Table 5 shows only the regression model of the negative exponential function of utilities to save the space.

Table 5
Absolute Risk Aversion (ARA) Classified by Provinces
(The row under coefficient shows standard deviation)

	Chayapum	Khonkaen	Udonthani	Roi-et	Srisaket	Surin	Burirum
Constant	0.80880	-0.04030	0.10701	-0.47207	-0.48598	0.07772	-0.18730
	0.51270	0.35967	0.60279	0.43055	0.36349	0.29689	0.39814
GENDER	0.09134	0.08924	-0.08191	-0.03628	0.14817	0.182973**	-0.19533
	0.10980	0.10097	0.12699	0.08707	0.10904	0.08040	0.16127
COST	-0.00013*	0.00000	-0.00003	0.00005	-0.000109*	0.00007**	0.00001
	0.00008	0.00006	0.00004	0.00005	0.00006	0.00003	0.00005
TOTAL_AREA	-0.01146	-0.00323	0.01040	0.02657	0.01321	0.01667	0.04807
	0.02497	0.01489	0.01872	0.01963	0.01224	0.01796	0.02692
TOTAL_RENT	0.00946	0.00235	0.01192	0.00462	0.01119		-0.00330
	0.00883	0.00707	0.03993	0.01344	0.00825		0.00810
IRRIGATION	-0.04825	-0.10771	0.06333	-0.10856		-0.181976**	-0.27354
	0.19723	0.27714	0.18336	0.32463		0.07854	0.19502
ORGANIC	0.320049**	0.07176	-0.00416	0.09170	0.04178	-0.140165*	0.14849
	0.10095	0.07777	0.11394	0.10563	0.09146	0.07681	0.12300
OTHER_CROP	0.07016	-0.03051	-0.09604	-0.14115	-0.19338	0.01333	0.11650
	0.11615	0.10695	0.11051	0.10097	0.13942	0.11878	0.14442
HIRE	0.213917*	0.00695	-0.05742	0.09245	-0.22334	-0.289128**	0.401682**
	0.12063	0.09093	0.09085	0.09613	0.24980	0.11182	0.14054
TOTAL_CROP	-0.00050	-0.00075	0.00138	0.01112	0.00308	-0.00034	0.00801
	0.00883	0.00561	0.00521	0.01083	0.00813	0.00786	0.00715
INCOME	0.00000	0.00000	0.00000	-0.00001	0.00000	0.00000	-0.00001
	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
FAMILY_SIZE	-0.085006**	-0.02614	-0.01750	-0.04126	0.03097	-0.027684*	-0.068221**
	0.03378	0.02415	0.01752	0.02937	0.03102	0.01384	0.02859
OTHER_INCOME	-0.199343*	0.12741	-0.08811	0.326016**	0.17419	-0.3299*	0.12280
	0.10728	0.11407	0.13663	0.15278	0.18852	0.16648	0.16549
BUY_INS	0.07429	-0.07145	-0.03932	-0.02442	0.08919	0.08599	-0.16725
	0.08560	0.12529	0.11902	0.09165	0.08908	0.12057	0.14332
OWNED_100	-0.11070	0.20612	0.22514	-0.09490	0.26503		-0.08979
	0.11546	0.14801	0.50647	0.16790	0.18904		0.16411
R_SQUARED	0.57856	0.20982	0.26549	0.34448	0.50259	0.70175	0.71894

Note. **significant at 5%
 *significant at 10%

The results vary across provinces. The factors that increase risk aversion are organic farming (Chayapum), labour hiring (Chayapum), other sources of income (Roi-et), cost (Surin), farm size (Burirum). There are common factors to explain lower risk aversion. They are family size (Chayapum, Surin, Burirum), other sources of income (Chayapum), cost (Chayapum, Srisaket), irrigation (Surin), and organic farming (Surin).

Table 6 shows the probit model when the decision to buy crop insurance in 2015 is used as dependent variables. There are only three significant variables, namely, OTHER_CROP, OTHER_INCOME, and the risk aversion. Positive relationship of the last variable still confirms that those with high risk will rationally buy more insurance. However, when the variables that proxy self-risk management are included, other factors are now insignificant. This study is the first to argue that farmer in developing countries has his own risk management mechanism instead of solely rely on government support through crop insurance scheme. The implications on policy recommendation will be elaborated in the last section.

Table 6
The Probit Model of the Decision to Buy Crop Insurance
 (The row under coefficient shows standard deviation)

	Buy_Insure
Constant	0.750343 0.548821
GENDER	-0.34184* 0.186105
COST	-3.75E-05 8.76E-05
TOTAL_AREA	-0.010428 0.02374
IRRIGATION	-0.104231 0.316768
ORGANIC	-0.222279 0.181253
OTHER_CROP	-0.40489** 0.195095
HIRE	0.187339 0.200154
TOTAL_CROP	-0.001883 0.009378
INCOME	1.98E-06 4.02E-06
FAMILY_SIZE	0.051979 0.04657
OTHER_INCOME	-0.486362* 0.264513
BUY_INS	0.260712 0.198965
OWNED_100	-0.328775 0.223729
EXP_ARA	0.737275* 0.430117
R-SQUARED	0.083291
LR	25.91722
Prob (LR stat)	0.026521

Note. **significant at 5%
 *significant at 10%

5. CONCLUSION

This paper estimates the utility function of Thai farmers in seven provinces of North East. I found that the negative exponential function can explain risk preference of Thai farmers. Nearly half of the sample were risk lovers. This can explain why there was usually low participation of Thai farmers who buy crop insurance except in 2015.

I found that actual risk premium collected in 2015 and indemnity offered by insurers are far from expectation by the farmers. Therefore, the policy to encourage higher contribution from the farmer to share the insurance cost with the government will be unsuccessful.

I also found that there was no common factor contributing to higher risk aversion among seven provinces. However, I found that family size and other sources of income are common factors that contribute to higher risk tolerance of the farmers. The likely explanation is that Thai farmers have their own safety net from production risk by diversifying income through family members. I argue that this is a unique characteristic of farmers in developing countries. Moreover, once the self-risk management factor has been taken into consideration, all other factors except characteristics of the farmer are insignificant.

The policy to encourage the farmer to participate in the crop insurance shall focus more on changing their attitude towards risk. Although the likelihood for natural disaster is quite low in some area, the impact is tremendous. The best strategy is to manage the risk transfer. Since the self-risk management is the key factor for farmers in developing countries to buy crop insurance, the government should target this policy on the smallholder farmers without self-risk management or support from other family members' income.

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EFFECTIVENESS OF MARKETING PUBLIC RELATION: EVIDENCES FROM VIETNAM

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ABSTRACT

The effect of marketing public relations (MPR) on human interactions such as their changing attitudes is difficult to quantify. Academics and industry professionals are both struggling with this challenge. This research laid foundations by using SERVQUAL framework to measure the effectiveness of MPR on attitude toward brand (ATB) to identify insights that can inform strategy in practice. A survey was accompanied with 317 respondents in Ho Chi Minh City, Vietnam to collect primary data. Constructing on the multiple regression analysis, it was concluded that MPR has positive relationship with ATB; also tangibles dimension of SERVQUAL. Furthermore, MPR indirectly affects ATB through tangibles. Hence, managers are highly recommended to make the MPR programs more tangibility in order to gain positive ATB.

Keywords: Marketing public relations, MPR, Marketing, Public Relations, SERVQUAL, Tangibles, Attitude toward brand.

INTRODUCTION

In the 21st Century Media, the raising of social media and viral marketing require efficiency of marketing and communication practices. While the concept and practice of two discrete disciplines is carefully study in many researches, the collaborating relationship between marketing and public relations remains an arguable issue among both academia and practitioners. Currently, marketing public relations (MPR) still received little discussion and investigation. Responding to the lack of sufficient data related to MPR, this research starts with an extensive literature review on the subject. Next, it promotes SERVQUAL application in theoretical circumstantial and creates contribution by measure the effectiveness of MPR programs on attitude toward a brand through the mediated role of service quality. This research benefits organizations by understanding the effectiveness of MPR on customer's attitude toward a brand. Since MPR is a customer-oriented tool; it depends on two-way communications to understand customers' needs and find ways to meet those needs (Marken, 1995).

Furthermore, both agencies and academics are struggling with the question of how to measure the impact of such promotion campaign on human interactions. Therefore, this research proposed the framework to quantify the effectiveness of MPR on customer's changing attitude to industry professionals; also provides direction for the managers in making decisions related to improve quality of consumer relationship and investment, especially adjust the budget accordingly in implementing the strategy in the future.

LITERATURE REVIEW

Marketing Public Relations (MPR)

Definitions

The term 'marketing public relation' is introduced in the 1980s as the result of an effort to differentiate between general public relations and public relations for marketing purposes (Papasolomou, Thrassou, Vrontis, & Sabova, 2014). Harris and Whalen (2006) propose that MPR refers to "the use of public relations strategies and tactics to achieve marketing objectives". Giannini (2010) defines MPR as "any program or effort designed to improve, maintain, or protect the sales or image of a product by encouraging intermediaries such as traditional mass media, the electronic media, or individuals to voluntarily pass a message about the firm or product to their audience of businesses or consumers". These ideas can be integrated to form a new definition for MPR: "MPR is a

promotional tool that directly or indirectly contributes to the achievement of marketing and sales objectives by promoting brands and causes in a trustworthy manner, creating media and public interest in them, preparing the public for news, creating favorable perceptions and stimulating positive word-of-mouth communications” (Papazolomou et al., 2014).

Differences between general public relations and public relations for marketing purposes, MPR *Public relations as a corporate communication tool*

Kitchen and Moss (1995) argued that public relations is a corporate communication tool to achieve promotional and relational objectives. Public relations use different tactics to send a consistent message to the publics. As communication is important to building and maintaining relationship; which logically leads to the understanding that public relations, the tool managing communication, help organizations effective in developing its interaction with its public (Grunig & Grunig, 1991). Furthermore, Kitchen (1997) indicates that firms need to exploit many public relations functions to build “mutually satisfactory relationships” with its publics who may influence the success of any firm. Those relationships are considered as a favorable environment in which marketing can create exchanges for its products and services.

Public relations as a contributor to marketing objectives

Kotler and Mindak (1978) firstly raised the question whether marketing and public relations, as “the major external functions of the firm”, should be partners or rivals. They also suggested five models illustrating the possible organizational relationship between marketing and public relations. Among those, the second model as “Equal but Overlapping Functions” seemed to initially illustrate the use MPR in terms of two common grounds, namely product publicity and customer relations. Then, Pelsmacker et al. (2001) and Stroh (2007) similarly applied ring model to clarify this “communal relationships”. Meanwhile, Stroh (2007) concluded “Public relations and marketing work together by building exchange relationships with consumer, customers, clients, distributors, and other marketing parties through areas such as sponsorships, corporate identity, image building and media relations.” As a result, MPR could benefit the corporates by enhancing their credibility, services as well as long-term relationship and trust of customers (Strenski, 1991; Scriven, 2002). In addition, the new challenge of managers was not only to plan more effective financial strategy but also to be proactive with consumer relationship. From the perspective of corporate communication, it was apparent that public relations play an important role, and in this urgent circumstance, scholars emphasized that it may have “significant value in terms of marketing” (Kitchen, 1993; Satawedid, 2005).

Attitude toward brand

Attitude towards brand is a “predisposition to respond in a favorable or unfavorable manner to a particular brand after the advertising stimulus has been shown to the individual” (Phelps & Hoy, 1996). Mitchell (1986) define attitude towards brand as an “individual’s internal evaluation of the brand”. There are a host of attitudes that customers may hold toward brands, but the most important relate in various ways to perceived quality of the brand (Keller, 2003). In general, attitude towards brand can be defined as audiences' affective reaction to the brand. That is, to what extent audiences’ feel purchasing the brand is good-bad, favorable-unfavorable, and wise-foolish (Lutz et al., 1983).

Service quality

Definitions of service quality hold that this is the result of the comparison that customers make between their expectations about a service and their perception of the way the service has been performed (Lehtinen & Lehtinen, 1982; Lewis & Booms, 1983; Gronroos, 1984; Parasuraman et al., 1985, 1988, 1994). Service quality is a measure of how well the service level delivered matches customer expectations. Lehtinen and Lehtinen's (1982) basic premise is that service quality is produced in the interaction between a customer and elements in the service organization. A frequently used and highly debated measure of service quality is the SERVQUAL scale (Parasuraman et al., 1988). The 5 dimensions and the descriptions the authors give are listed below:

- Tangibles —physical facilities, equipment, and appearance of personnel;
- Reliability—ability to perform the promised service dependably and accurately;
- Responsiveness—willingness to help customers and provide prompt service;

- Assurance—knowledge and courtesy of employees and their ability to inspire trust and confidence; and
- Empathy—caring, individualized attention the firm provides its customers.

The proposed hypothetical model

Based on the preceding discussion, the following hypotheses are advanced.

- H1. MPR programs have positive relationship with service quality.
- H2. Service quality positively affects attitude toward brand.
- H3. There is a positive relationship between MPR programs and attitude toward brand
- H4. MPR programs indirectly affect attitude toward brand through service quality

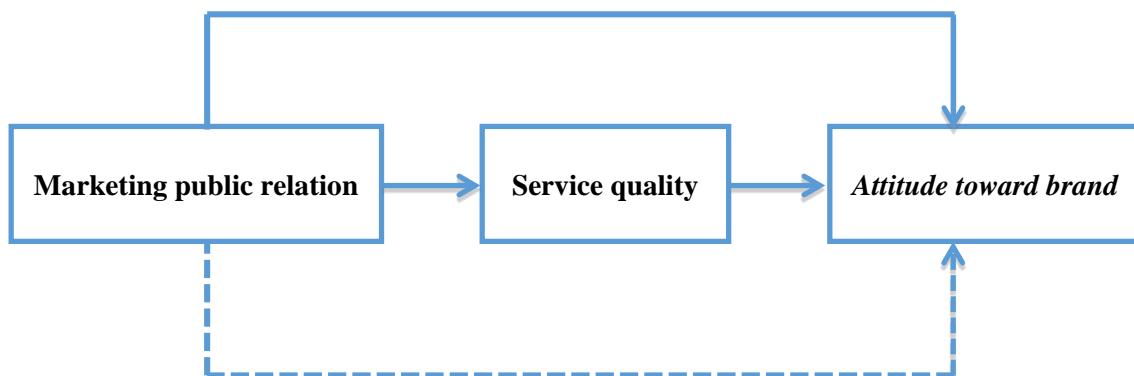


Figure 1. Conceptual framework.

METHODOLOGY

Questionnaire design and data collection

The research using quantitative data collected in the questionnaire surveys of respondents in Ho Chi Minh City. Measurement was based on a five-point Likert scale which anchors ranging from “1-Strongly Disagree” to “5-Strongly Agree”. Students in Ho Chi Minh City were considered the target population for this study. Since the target population is large so only students who have actual experiences in perceived MPR programs of RMIT International University Vietnam in recent 3 months of 2016, were selected as samples. Adopting convenience sampling, with error of 5% (confidence level of 95%), chosen sample size will be 320. After modification, there were 317 valid respondents were collected and analyzed for further research results.

Data analysis

Statistical Package for the Social Sciences (SPSS) software version 20.0 was used to analyze the research data. In the early stage of the research, Reliability Test was accompanied to guarantee the reliability of different scales. Then Exploratory Factor Analysis (EFA) was used to gather information about the interrelationships among variables. Afterwards, hierarchical multiple regression was used to assess the impact of MPR programs on attitude toward brand with influence of mediate variables, service quality.

Factor analysis and reliability

For this study, two EFA were conducted with KMO and Bartlett's test of sphericity, and Rotation of 19 items of independent variables and 25 items of dependent variables. The KMO measure for both groups of independent variables (KMO = 0.935) and dependent variables (KMO = 0.957) were greater than 0.60, which is the minimum value for a good EFA (Tabachnick et al., 2001). Moreover, the Sig. of Bartlett's Test of Sphericity has the result of 0 (<0.05) indicate the sufficient correlation between variables. Table 1 shows the summary result of independent variables with all factors loadings ranging from 0.561 to 0.773 which meet the minimum requirement 0.40 (Hair et al., 1998). Those independent variables grouped into 4 components (MPR1, MPR2, MPR3, and MPR4). The

Cronbach's Alpha values (N=317) estimated the internal consistency among items in each factor were 0.854, 0.876, 0.774, 0.719. According to Pallant (2013), the Cronbach's Alpha values above 0.60 is considered acceptable. Similarly, as shown in Table 2 all factors loadings of remaining 25 items of dependent variables ranging from 0.856 to 0.564, grouped into 4 components (SQ1, SQ2, SQ3 and ATB). The Cronbach's Alpha values (N=317) estimated the internal consistency among items in each factor were 0.919, 0.904, 0.897, 0.857.

Table 1
Summary of independent variables and reliability coefficients

Factor	Items	No. Items loadings	Cronbach's Alpha value (N=317)
MPR1	T_ASS4, T_EMP1, T_EMP2, T_EMP3, T_EMP4, T_EMP5	6	0.854
MPR2	T_REL3, T_REL4, T_REL5, T_RES2, T_RES3, T_RES4	6	0.876
MPR3	T_TAN1, T_TAN2, T_TAN3, T_TAN4	4	0.774
MPR4	T_ASS1, T_ASS2, T_ASS3	3	0.719
		19	

Table 2
Summary of dependent variables and reliability coefficients

Factor	Items	No. Items loadings	Cronbach's Alpha value (N=317)
SQ1	SQRES3, SQRES4, SQASS3, SQASS4, SQEMP1, SQEMP2, SQEMP3, SQEMP4, SQEMP5	9	0.919
SQ2	SQREL1, SQREL2, SQREL3, SQREL4, SQREL5, SQRES1, SQRES2	7	0.904
ATB	ATB1, ATB2, ATB3, ATB4, ATB5	5	0.897
SQ3	SQTAN1, SQTAN2, SQTAN3, SQTAN4	4	0.857
		25	

RESEARCH FINDINGS

Profile of the sample

Table 3

Respondent profiles (N=317)

Characteristic	Categories	Sample	
		Frequency	Valid Percent
Age	16-18	34	10.7
	19-21	230	72.6
	22-24	43	13.6
	Other	10	3.2
Gender	Female	227	71.6
	Male	90	28.4
Education level	High school student	21	6.6
	University student	281	88.6
	University graduated	11	3.5
	Other	4	1.3
Family annual income	Below \$10,000	202	63.7
	From \$10,000 to \$25,000	75	23.7
	From \$25,000 to \$50,000	23	7.3
	Above \$50,000	17	5.4

Regression and Hypothesis testing

Pearson's Correlation Analysis and Linear Regression Analysis were applied in order to examine the relationship among variables.

Table 4

Correlation among variables

	MPR1	MPR2	MPR3	MPR4	SQ1	SQ2	SQ3	ATB
MPR1	1							
MPR2	.000	1						
MPR3	.000	.000	1					
MPR4	.000	.000	.000	1				
SQ1	.034	-.081	-.001	.002	1			
SQ2	.052	.046	.089	-.014	.000	1		
SQ3	-.017	-.036	-.013	.095	.000	.000	1	
ATB	.010	-.041	.020	.101	.427**	.335**	.475**	1

Note. **. Correlation is significant at the 0.01 level (2-tailed).

The findings from table 4 above show the r value of four pairs of independent variables (MPR1, MPR2, MPR3, and MPR4) at .000 so that they have no relationship with each other. The results show both positive and negative correlations between the dependent variable, ATB, and four independent variables (MPR1, MPR2, MPR3, and MPR4) and the mediate variables (SQ1, SQ2, SQ3).

Table 5:
Coefficients of H1, H2 and H3

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	-1.889E-017	.039		.000	1.000
	MPR1	-.014	.039	-.014	-.365	.715
	MPR2	-.006	.039	-.006	-.147	.883
	MPR3	-.003	.039	-.003	-.082	.935
	MPR4	.061	.039	.061	1.536	.000
	SQ1	.427	.039	.427	10.824	.000
	SQ2	.337	.040	.337	8.532	.000
	SQ3	.468	.039	.468	11.866	.000

Scanning the Sig. column in the Coefficients table, there is only one independent variable (MPR4) make a unique statically significant contribution (less than 0.05) to dependent variable (ATB). The MPR1, MPR2 and MPR3 had the Sig. >0.05, therefore those items must be eliminated and the regression analysis has to run again with the remaining variables. In the new Model Summary table, the R Square value is .523 indicates that this model explains 52.3% of the variance in the dependent variable (ATB). The remaining percentage (47.7%) was interpreted by other factors. This is quite a respectable result. This model also reaches statistical significant (Sig. = .000). The regression equation was proposed:

$$ATB = 0.061MPR4 + 0.427SQ1 + 0.336SQ2 + 0.469SQ3$$

Indirect effect of MPR programs

According to Preacher and Hayes (2008) the indirect effect of an independent variable on the dependent variable through the mediate one is the total product of the effect of that independent variable on the mediate variable and the effect of the mediate variable on the dependent variable. MPR programs positively affected service quality ($\beta = 0.061$, $p = 0.000$). MPR programs directly influenced the mediate variable of service quality (H1) and then service quality directly caused and effect on attitude toward brand (ATB); SQ1 ($\beta = .427$, $p = .000$), SQ2 ($\beta = .336$, $p = .000$) and SQ3 ($\beta = .469$, $p = .000$) (H2). The regression coefficients were MPR4 ($\beta = .101$, $p = .000$) indicate a positively influence of MPR programs on ATB at the 95% confidence level (H3). Consequently, through the mediator of service quality, MPR programs created indirect effects on attitude toward brand (H4).

Significant of the indirect effect

Preacher and Hayes (2008) also recommend the bootstrapping method to test the significant of indirect effects or mediations. If ZERO does not occur between the LL and the UL, then we can conclude that, with 95% confidence, the mediation or indirect effect is significant.

Indirect effect(s) of MPR4 on ATB

	Effect	Boot SE	BootLLCI	BootULCI
Total:	.0410	.0346	-.0245	.1113
Ind1:	.0009	.0232	-.0459	.0466
Ind2:	.0000	.0015	-.0031	.0032
Ind3:	.0000	.0018	-.0039	.0040
Ind4:	.0000	.0002	-.0004	.0004
Ind5:	-.0046	.0171	-.0396	.0289
Ind6:	.0000	.0022	-.0043	.0052
Ind7:	.0447	.0199	.0041	.0838

As can be seen in the output of indirect effect(s) of MPR4 on ATB table above, only the indirect effect 7th (Ind7) which were estimated to lie between .0041 (LL) and .0838 (UL) does not have Zero in the 95% confidence interval. We can conclude that this indirect effect of MPR on ATB was indeed significantly different from zero at $p < .05$ (two tailed) and the mediation of SQ3 in this study were true.

Figure below summarized the total effects including direct and indirect effects of independent variables (MPR4) and mediated variable (SQ1, SQ2 and SQ3) on dependent variable (ATB). It indicated that service quality – tangibles dimension (SQ3) had the greatest value of Beta Coefficients, 0.469. As a result, service quality – tangibles dimension had significant impact on attitude toward brand (ATB). It affects ATB more than the others. The second factor which had the Beta Coefficients' value of 0.427 was service quality – empathy dimension (SQ1). Service quality – reliability dimension (SQ2) also impact ATB with value of Beta Coefficients, 0.336. MPR programs – assurance dimension (MPR4) also influenced on attitude toward brand (ATB) but less than service quality (SQ1, SQ2, SQ3); this was shown by the Beta Coefficients' value of 0.101. Finally, MPR – assurance dimension indirectly affect attitude toward brand through service quality – tangibles dimension with value of 0.044.

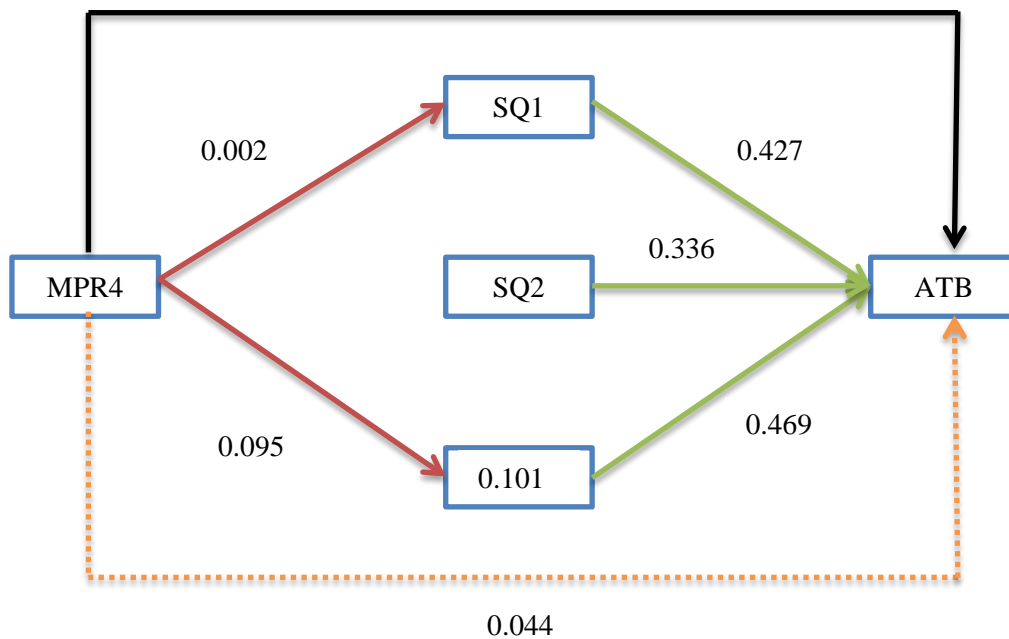


Figure 1. Path coefficient.

DISCUSSIONS AND IMPLICATION FOR MANAGERS

Discussion

Measure the effectiveness of a promotion campaign at the advanced level which is changes in attitudes is very challenging. However it can help agencies show how their program goes beyond “how many people are talking about you” to finding out “what behavior change are we driving, to our advantage.” As a result, the emergence of MPR which featured Public Relation as a contributor to marketing objectives, not just a corporate communication tool is essential. Consequently, this research using SERVQUAL framework to measure the impact of MPR programs on attitude toward a brand to identify insights that can inform strategy.

Compare the multiple regression analysis with the findings from the descriptive analysis, the majority of the respondents agreed that they perceive MPR programs (press release and brand ambassadors) mostly through service quality – tangibles dimension. It can be seen that, this service provider have great ability in distribute their physical facilities, equipment, and appearance of personnel via MPR program. According to Hoffman and Bateson (2006) the tangibles component in SERVQUAL is two-dimensional; one focusing on equipment and facilities, the other focusing on personnel and communications materials. It can be seen that, press release and those events, exhibitions, seminars, also brand ambassadors are the dimension which focusing on personnel and communications materials of tangibles component.

The priority objective of this research is to measure the effectiveness of MPR on attitude toward brand. And it successfully proves the positive relationship between MPR programs and attitude toward a brand. The results from the findings also show that MPR programs indirectly affect attitude toward brand through service quality. This research also verified that MPR programs have positive relationship with service quality. The table below presents some research hypotheses are supported and accepted:

Hypotheses	Description	β	Sig.	Results
MPR4→SQ1	MPR – assurance dimension have positive relationship with service quality – empathy dimension	.002	.000	Accepted
MPR4→SQ2	MPR – assurance dimension have positive relationship with service quality – reliability dimension	-.014	.000	Eliminated
MPR4→SQ3	MPR – assurance dimension have positive relationship with service quality – tangibles dimension	.095	.000	Accepted
SQ1 → ATB	Service quality – empathy dimension positively affects attitude toward brand	.427	.000	Accepted
SQ2 → ATB	Service quality – reliability dimension positively affects attitude toward brand	.336	.000	Accepted
SQ3 → ATB	Service quality – tangibles dimension positively affects attitude toward brand	.469	.000	Accepted
MPR4→ATB	There is a positive relationship between MPR – assurance dimension and attitude toward brand	.101	.000	Accepted
MPR4→SQ3→ATB	MPR – assurance dimension indirectly affect attitude toward brand through service quality – tangibles dimension.	.044	.000	Accepted

Implication for managers

The emergence of MPR or the combined exploitation of different elements in promotion mix is considered as an important change for companies in a volatile business context. As the indirect effect of MPR programs on attitude toward brand through mediate of service quality – tangibles dimension is functional; also the regression equation indicated that service quality – tangibles dimension had the greatest positive value of Beta Coefficients, 0.469 on attitude toward brand; this research highly recommends that marketing and PR managers have to make their MPR programs more tangible in order to gain positive attitude toward a brand. For example:

- Encourage favorable word-of-mouth communication by feature the comments of satisfied customers in MPR programs.
- Highlight the realness of service quality via MPR programs by guaranteeing service provide.
- Creatively use tangible evidence in marketing, utilize tangible symbols to represent the service themselves or using numbers in MPR programs message.
- Concentrate on the use of physical cues and tangible evidence on MPR programs, especially world standard facilities.

CONCLUSION

The current research lay foundations for further researches by explore the effectiveness of MPR with the evidence from Vietnam. Using linear multiple regression analysis, it was concluded that MPR have positive relationship with attitude toward brand. Moreover, MPR indirectly affect attitude toward brand through tangibles dimension of SERVQUAL. This research also proved that MPR have positive relationship with tangibles. Hence, marketing and PR managers are highly recommended to make the MPR programs more tangible in order to gain positive attitude toward a brand.

Service providers can reference the findings from this research in making decisions related to improve quality and investment, especially adjust the budget accordingly in implementing the marketing and PR strategy in the future. Moreover, future studies can reference the model of this research to quantify the effect of MPR on attitude toward brand through mediator of service quality. However, since it is still in the early stage of foundation, further experimental researches are required for model confirmation and improvisation. In order to tracking a MPR effect on attitude toward brand, forthcoming research must construct a survey before starting the campaign, measure whether the public heard of the brand and its offerings. Then survey them again afterward to check whether awareness statistics are trending up. This forward-looking approach helps bridge the gap between MPR and outcomes, which has been seen widely as a big obstacle.

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EFFECT OF UNIVERSITY IMAGE ON STUDENT SATISFACTION, STUDENT LOYALTY AND WORD OF MOUTH INTENTION – THE CASE OF INTERNATIONAL UNIVERSITY – VNU HCM

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ABSTRACT

This study investigates the degree to which a university image affects the student satisfaction, loyalty, and word of mouth intention in the case of International University of Vietnam National University – Ho Chi Minh city. It uses the “Conceptual Model of Student Satisfaction in Higher Education” as the primary research model framework. The Literature review suggests a number of important factors that contribute significantly to the student satisfaction, student loyalty and their words of mouth intention. Five factors have been analyzed in the study, namely: image, expectations, perceived service quality, perceived value, and extra-curricular activities. Using the sample size of 718 respondents who are the students of different schools and departments, the research has found the empirical evidence that supports the significant impacts of image on the student overall satisfaction. In addition, findings from this study suggest a positive correlation between image and students’ expectations of university’s services, and thus, the perceived service quality.

Keywords: International University, university image, expectations, service quality perceived, value perceived and extra-curricular activities, student satisfaction, student loyalty, words of mouth intention.

1. INTRODUCTION

Higher education in Vietnam - For decades, education has been one of the most frequently addressed topics discussed by Vietnamese leaders of the central as well as local governments. In the process of globalization and economic integration, there has been an increasing number of Vietnamese people who have gone abroad to study. This promises a great contribution of a future young generation to development of the country. Unfortunately, the problem of brain drain has been found in Vietnam when many of them have not returned to the country after graduation. Improving the country’s education quality becomes one of the measures that may help reduce the brain drain problem. To achieve this goal, universities need to identify possible factors that affect their student satisfaction and loyalty in order to develop appropriate education program curriculums and services. The satisfaction and loyalty can help encourage the student selection for further studying to get master and Ph.D degree at the same university after graduation.

2. LITERATURE REVIEW

A. Image

According to Keller (1993), an image is characterized as an impression of an association reflected in the affiliation held in customer memory. It is recognized by Andreassen and Lindestad (1997) as an essential component which is used to decide the general assessment of the administration or an association. Andreassen and Lindestad (1997) endorsed that organization image is powerful on the satisfaction of client particularly if a client has fractional data on services of the organization.

According to PhrMA (1982), university image is a blend of thoughts with the connection to that institution, educational module, teaching quality and the nature of correspondences.

Kotler and Fox (1985) states that an image means a general feeling or recognition that a man thinks about something and can issue from fragmented data and/or because of the distinction of an organization. Due to associations setting up direct contact with distinctive people, one organization has not only a simple image; rather, it has also a complex of images.

As indicated by Oliver (1997), dependability of clients will bring about the expanding solicitation of services or products and his/her repurchase actions in the future. After graduation, loyal undergraduates might demonstrate their loyalty by their backing for further studying of master and Ph.D. Under the general condition, satisfaction can be seen as a procedure and/or an outcome. With due recognition to its tendency, satisfaction can be concentrated on as perception or feeling shapes. The model proposed by Clow, Kurtz, Ozment, and Ong (1997) of organization's image is influenced by unmistakable elements, value, promotion and exposure and this image is concentrated directly and indirectly on satisfaction of people on account of the fathomed quality. The research of Clow et al. (1997) reasons that the effect of an image on satisfaction can be affirmed just in some administration commercial ventures (Alves and Raposo, 2006).

B. Student Satisfaction

According to Longman Dictionary English online, satisfaction means “a feeling of happiness or pleasure because you have achieved something or got what you wanted”.

Kotler and Clarke (1987) characterized “satisfaction as a state felt by a person who has experience performance or an outcome that fulfill his or her expectation”. Satisfaction is a component of the relative level of expectations and perceived performance. The expectations might go similarly as before the undergraduates even enter the higher education, proposing that it is essential to the analysts to decide first what the undergraduates expect before entering the college (Palacio, Meneses, & Perez, 2002). On the other hand, Carey, Cambiano, & De Vore (2002) showed that satisfaction really covers issues of undergraduates' observation and encounters amid the university times.

While most student satisfaction studies concentrate on the viewpoint of the customer, analysts are confronting an issue of making a standard definition for student satisfaction, therefore giving a need of consumer loyalty hypothesis to be chosen and changed with the goal that it can clarify the importance of student satisfaction (Hom, 2002).

Despite the fact that it is unsafe to view students as customers; however, given the present environment of higher education commercial center, there is another good right that students have ended up "customers" and as charge payers, sensibly request that their perspectives should be heard and followed up on (William, 2002).

According to Kwek et al., (2010), student satisfaction should dependably be considered by the university because of serious rivalry among university, internationalization soul, higher desire of client to the higher educational institution, an expansion in the educational cost charge, and the order of training as an attractive service.

Customers, for example, students, for the most part settle on a purchase decision in light of their own valuation of the customer satisfaction. In an educational institution, students are the main customers of the organization (IWA, 2007; Sakthivel, 2005; Hill, 1995; Zairi, 1995). On the other hand, according to the research of Athanassopoulos, Gounaris, and Stathakopoulos (2001), their satisfaction depends on their assessment of the items or services used and regardless of whether their desires or needs were met. In the case that the people who work on higher education think about the elements that enhance the view of students of satisfaction, it will be equipped for giving better services and additionally enhancing the existing ones.

To increase upper hand, the finding of Petruzzellis and Romanazzi (2010) prescribed universities to highlight the vital significance of social qualities picked up by students while going along with them. Moreover, they contended that universities must show the methods by which they support to their students' goals accomplishment. Essentially, this would influence the students' impression of satisfaction. A few elements affect undergraduates' level of satisfaction and additionally their accomplishment and ingestion limit.

There are many studies that show the positive relationship between service quality and satisfaction. To increase the student selection, the head of that organization tend to deal with enhancing their service quality through five dimensions “namely reliability, assurance, empathy, responsiveness and tangibles” (Zeithaml, Bitner, & Gremler, 2009).

C. Student Loyalty

Oliver (1997) indicated that customer loyalty is a “deeply held commitment to rebuy or re-patronize a preferred product or service consistently in the future, despite situational influences and marketing efforts having the potential to cause switching behavior”.

Loyalty is an idea that has been deficiently utilized as a part of higher education. For Webb and Jagun (1997), this idea measures student's readiness to prescribe the establishment to others students, the wish to tell positive things concerning the organization and the will to return later to proceeding with studies.

According to Martensen, Grønholdt, Eskildsen, and Kristensen (1999), loyalty can be measured through:

- Intention to utilize proceeding with training, meetings, etc., at the higher education later on;
- Intention to recommend the higher education institution;
- Intention to recommend study program from the higher education center;
- Choosing the higher education organization if undergraduates need to pick today;
- Choosing the study program if undergraduates need to pick today.

There are many studies on student loyalty in the higher education context. Hennig-Thurau, Langer, and Hansen (2001) in Germany is known for the research on customer loyalty in the higher education context. The target of his research is to consolidate the idea of relationship marketing with education services.

“To overcome this gap, we develop a conceptual model for student loyalty that combines insights from the educational literature on student loyalty with the relationship approach of services marketing theory. This ensures that the model takes proper account of the specific characteristics of educational services within its broadened perspective of relationship marketing”

Lin and Tsai (2008) conducted a research in Taiwan universities. Student loyalty is directly caused by perceived signal of retention of students and the perceived quality of teaching services. According to them, student loyalty is characterized by the maintenance, exchanging behavior and the word of mouth actions recommendations.

Mendez, Vasquez-Parraga, Kara, and Cerda-Urrutia (2009) show “the long-term student loyalty in higher education institution”. He argued that student loyalty is the key component in university organization achievement due to the cost savings in looking for new undergraduates and it might pay off after graduation as the gift and verbal advancement.

D. Words of mouth

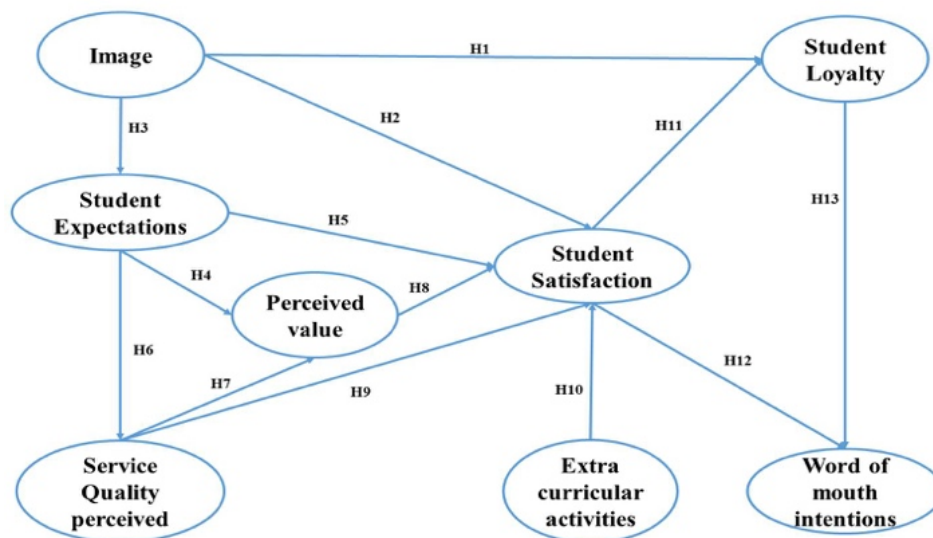
Word of mouth has been mentioned many times in the business writing especially in services researches. Traditionally, it has been seen as a component in the structure that developed from the satisfaction-benefit relationship. According to the research of S^derlund, and Rosengren (2007), satisfaction has been expected to influence word of mouth, which properly influences the productivity of the organizations, definitive objectives that organizations are increasing. The attitude that forms the word of mouth is known as the casual sharing of any purchase or utilization related data between customers. Word of mouth is considered to comprise of two general forms: negative and positive word of mouth.

There are many arguments between researchers in the information that people carry out through “word of mouth”; in conceptualization and operationalization. Fullerton and Taylor (2002), Gremler and Brown (1999), and Hartline and J. (1996) highlight direct recommendations. However, Maru, Cermak, and Prince (1994), and Mikkelsen, Van Durme, and Carrie (2003) make a point of an activity that people share about their experience.

According to East, Hammond, and Lomax (2008), word of mouth is known as casual advice that is being exchanged among customers. Researchers saw word of mouth as an intuitive, fast, and insufficient in business-related inclination. The impact of word of mouth to any product or service that customers are willing to repurchase is very capable. Positive word of mouth is thought to be empowering a decision like the brand decision, while negative word of mouth is thought to be debilitating a brand decision.

The research of Sweeney and Swait (2008), and Erdem, Swait, and Louviere (2002) proved that satisfaction and loyalty led to the word of mouth actions. Besides, the research of Liao, Chung, Hung, and Widowati (2010) showed the additional belief in the connection between satisfaction, loyalty and word of mouth. Hjalte and Larsson (2004) also proved the tolerable relationship between these components. Kumar and Shah (2004) found that loyal customers have positive word of mouth actions.

On the other hand, dissatisfied customers can expand the negative word of mouth. This can have the bad consequences to an organization that they never come back or have any idea on the repurchasing actions. Normally, loyal customers are the key promoters of any brands. They can help to increase the image, also other aspects. The research paper suggests the following conceptual model and hypotheses Hi:



- H1: There is a positive impact of IMAGE on STUDENT LOYALTY.
- H2: There is a positive impact of IMAGE on STUDENT SATISFACTION.
- H3: There is a positive impact of IMAGE on STUDENT EXPECTATIONS.
- H4: There is a positive impact of STUDENT EXPECTATIONS on SERVICE QUALITY PERCEIVED.
- H5: There is a positive impact of STUDENT EXPECTATIONS on STUDENT SATISFACTION.
- H6: There is a positive impact of STUDENT EXPECTATIONS on PERCEIVED VALUE.
- H7: There is a positive impact of SERVICE QUALITY PERCEIVED on PERCEIVED VALUE.
- H8: There is a positive impact of PERCEIVED VALUE on STUDENT SATISFACTION.
- H9: There is a positive impact of SERVICE QUALITY PERCEIVED on STUDENT SATISFACTION.

H10: There is a positive impact of EXTRA CURRICULUM ACTIVITIES on STUDENT SATISFACTION.

H11: There is a positive impact of STUDENT SATISFACTION on STUDENT LOYALTY.

H12: There is a positive impact of STUDENT SATISFACTION on WORD OF MOUTH INTENTIONS.

H13: There is a positive impact of STUDENT LOYALTY on WORD OF MOUTH.

3. RESEARCH METHODOLOGY

Quantitative methodology is used to answer the research question of what factors that affect the student satisfaction, their loyalty and the word-of-mouth intentions.

Sampling method: Quota sampling is applied as a data collecting method. Quota sampling is a sampling method of gathering representative data from a selected group. Respondents who participate in the sample come from different schools and departments of the international university.

Questionnaire design: The contents of the questionnaire were built based on the previous studies related to university image and satisfaction, the loyalty of students. The questionnaire was written in English and was also adjusted through the pilot study (n=50) before officially sending to the target respondents (n=718). The structure of survey was divided into 8 parts, which include 60 items. All the items in the questionnaire were constructed in a form of 5-point Likert scale in which 1 = “strongly disagree”, 2 = “disagree”, 3 = “average”, 4 = “agree”, and 5 = “strongly agree”.

4. RESEARCH FINDINGS

A. Demographic

Table 1

Sample Demographic

		Frequency	Percent
Gender	Male	431	60
	Female	287	40
	Total	718	100
Major	BioMedical Engineering	28	3.9
	Biotechnology	147	20.5
	Business	367	51.1
	Civil Engineering	21	2.9
	Computer Science & Engineering	55	7.7
	Electrical Engineering	35	4.9
	Industrial Systems Engineering	51	7.1
	Mathematics	14	1.9
	Total	718	100.0
Year	Alumni	32	4.5
	Fifth year	27	3.8
	Forth year	287	40.0
	Sixth year	6	.8
	Third year	366	51.0
	Total	718	100.0

The characteristics of respondents are shown in Table I. About gender, 40% male (n=287) and 60% female (n=431) completed surveys. Besides, the data showed the percentage of the respondent in eight categories. Over half of the respondents (51.1%) were from Business Department (n=367). The main respondents of this research are third year students which appropriate 51% (n=366).

B. Reliability

Table 2
Reliability

Given Name	Number of Items	Cronbach's Alpha
Image	6	0.843
Expectations	10	0.877
Service Quality Perceived	12	0.873
Value Perceived	5	0.852
Extra-curricular activities	6	0.863
Student Satisfaction	8	0.892
Student Loyalty	8	0.852
Words of mouth intention	5	0.895

Each dimension has Cronbach's Alpha, higher than 0.6; and the number of Corrected Item – Total Correlation of each item is greater than 0.3 that all the items can be kept and can be used to explain the characteristics of this factor.

C. CFA

According to the theory of Baumgartner and Homburg (1996), and Doll et al. (1994), some following indexes should be meet to meet the acceptable significant

- CFI, GFI, TLI > 0.8
- P-value < 0.05
- RMSEA < 0.8

Table 3
Appropriate Measure

Absolute fit measure	Value	Acceptability
CMIN	2834.385	Acceptable
P	.000	Acceptable
CMIN/DF	2.949	Acceptable
GFI	.844	Acceptable
CFI	.892	Acceptable
TLI	.884	Acceptable
RMSEA	.052	Acceptable

According to the value of GFI, it can be said that the model explains a quite elevated percentage of data variance: 84.4%, which, indicates that its acceptability can be considered quite good.

Table 4
Validity

	CR	AVE
WOM	0.895	0.632
Image	0.837	0.507
Expectations	0.866	0.448
Value	0.853	0.538
Activities	0.865	0.518
Satisfaction	0.895	0.518
Loyalty	0.841	0.576
Service	0.799	0.444

Based on the table, AVE of each factor is higher than 0.5 except Expectations and Service Quality. However, this result is still acceptable as Fornell and Larcker (1981) proved that if AVE is less than 0.5, but composite reliability is higher than 0.6, the convergent validity of the construct is still adequate.

D. SEM

Table 5
Appropriate Measure

Absolute fit measure	Value	Acceptability
CMIN	3207.040	Acceptable
P	.000	Acceptable
CMIN/DF	3.289	Acceptable
GFI	.831	Acceptable
CFI	.872	Acceptable
TLI	.864	Acceptable
RMSEA	.057	Acceptable

According to the value of GFI, it can be said that the model explains a quite elevated percentage of data variance: 83.1%, which, indicates that its acceptability can be considered quite good.

Table 6
Standardized Regression Weights

				Estimate
H1	Loyalty	<---	Image	-0.124
H2	Satisfaction	<---	Image	0.254
H3	Expectations	<---	Image	0.579
H4	Value	<---	Expectations	0.347
H5	Satisfaction	<---	Expectations	-0.139
H6	Service	<---	Expectations	0.413
H7	Value	<---	Service	0.477
H8	Satisfaction	<---	Value	0.501
H9	Satisfaction	<---	Service	0.226
H10	Satisfaction	<---	Activities	0.355
H11	Loyalty	<---	Satisfaction	0.621
H12	WOM	<---	Satisfaction	0.635
H13	WOM	<---	Loyalty	0.108

According to the figure above, the variables of Image has a direct effect of 0.254 on Student Satisfaction (H2). Besides, Image has significant influence of 0.579 on the formation of Expectations (H3). Image has the highest construct to the whole model with the sum of 0.833 direct.

The results of Expectations are Service Quality Perceived (0.413, H6) and Value Perceived (0.347, H4). The influence of Service Quality Perceived over Value Perceived is of 0.477 (H7). And there is a direct influence of 0.226 from Service Quality Perceived to the satisfaction of students (H9). The impact of Value Perceived to Student Satisfaction (H8) is 0.501.

Otherwise, Extra-curricular activities dimension has the positive impact of 0.355 to the satisfaction of students (H10). This approves that extra-curricular activities also play an important role in the group of factors that have pressure on the good feeling of students.

In this study, the outcome of satisfaction is loyalty (H11) and words of mouth intentions (H12). According to the result, loyalty is the main result of satisfaction, given that it was recognized that student satisfaction had an immediate impact of 0.906 in loyalty.

Additionally, words of mouth intentions factor is affected by loyalty (H13), by image, by quality and value perceived.

5. CONCLUSION & RECOMMENDATION

A. CONCLUSION

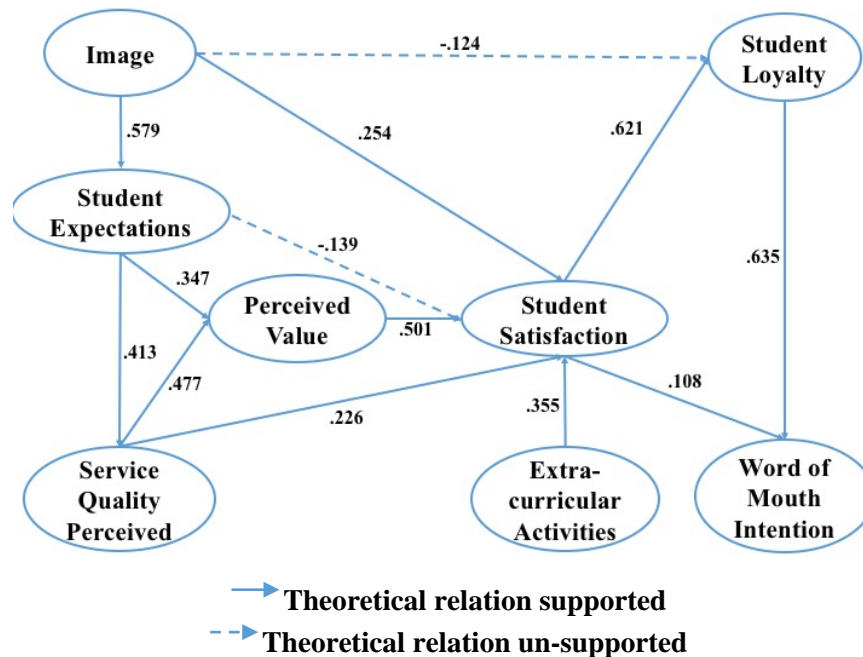


IMAGE	SERVICE QUALITY PERCEIVED
<ul style="list-style-type: none"> • good impression of IU • innovating university & turned to the future • good academic reputation • give students good preparation for their future • good to study 	<ul style="list-style-type: none"> • knowledgeable and competent instructors • considerate students instructors • interesting content • up to date curriculum • nice and pleasant surrounding
EXPECTATIONS	VALUE PERCEIVED
<ul style="list-style-type: none"> • World-class teaching quality • University's ability to give a good preparation to career • Getting a job after graduation • University response to students' needs • Interest and respect for students' problems • Academic environment quality • Pleasant and safe university environment • Quality of the degree 	<ul style="list-style-type: none"> • my experience can help me to get a good career. • Getting a degree is a good investment. • university offer a service suitable with money I paid • recruiters interested in hiring students from this university. • IU delivers high-quality service for the fees it charges students compared with others
EXTRA-CURRICULAR ACTIVITIES	STUDENT LOYALTY
<ul style="list-style-type: none"> • Diversified activities • open for all students • can have a lot of friends • good way to socialize. • get many life experiences • many activities suit my interest. 	<ul style="list-style-type: none"> • interested in keeping in touch with my teachers. • become a member of any networks organized by IU • intend to donate money after graduation if possible • think of giving donations after graduation.

STUDENT SATISFACTION	WORDS OF MOUTH INTENTION
<ul style="list-style-type: none"> • happy with the image of IU • happy with the service received • feel good about skills and knowledge of teachers • satisfied with value got from IU • happy in joining in extra curricular activities • satisfied with the curriculum • studying at IU is what I expected • satisfied with IU 	<ul style="list-style-type: none"> • say positive things about IU • suggest my friends and relatives take IU into consideration • recommend this study program to others • recommend IU to anybody who would like to hear about my undergraduate experience at IU • share with prospective students some information about IU and its academic programs

In general, the result of this study is similar to the finding of Alves and Raposo (2007) and Martensen et al. (1999). This means that building good image activities can lead to many benefits. When students feel satisfied with university, they will be ready to help and to give strong recommendation to other people.

Besides, when image is good enough in the view of students, they will definitely have high expectations on the quality of service, value and satisfaction. When these standards are high, the evaluation of students on other variables is trustworthy.

However, in the case of International University – HCMC Vietnam National University, image has the negative impact on the loyalty of student. A good image cannot influence on the student loyalty while the satisfaction definitely leads to the loyalty. This shows the important of student satisfaction to a university.

The finding of Webb and Jagun (1997) proved that words of mouth intention is the direct issue of student satisfaction. This means that when students feel happy with the experience at their university, they will try to prove the loyalty to that university by many ways. As mentioned above, the loyalty in this case are keeping in touch and giving donations to the university. Moreover, when students meet their expectations, they can use theirs words to say positive things about their university.

B. RECOMMENDATION

Today, the number of higher education institutions in Vietnam is continuously increasing. This leads to the subsistence of acrimonious competitions between universities in teaching, studying and attracting funding from the outside.

Student satisfaction, student loyalty, and words of mouth intentions are essential objectives of marketing activities in higher education sector. It can become the competitive advantages of the university to higher the position of IU in the educational sector. There are some materials mentioning about the importance of designing a long-term relationship with students, which starts when they make any choice about further studying.

The construction of the image should never be enough that IU should pay more attention to. When image reaches any certain trust, other factors need to be developed together to get the satisfaction of students.

There are many means of advertising to develop an image. The Student Recruitment Campaign implemented every year is a successful way of marketing activities. Additionally, IU can take advantage of successful cases. There are many successful people who used to be the IU alumni. IU should have some satisfactory policies to invite and to keep them together with university promotion campaigns. In addition, the successful alumni can enhance brand equity and increase the brand recognition.

Besides, IU should consider the developing of online portal to interact with students even their parents. IU can increase its image on online media; combine with quickly personal interaction through

online chatting and emails. The running of chatting forum can help respond to questions, feedbacks, and evaluations immediately from customers for corrective as well as proactive actions. Furthermore, this channel can be used to announce daily events and activities.

Even though extra-curricular activities affect student satisfaction at a moderate the degree, they need to be improved at the IU. The improvement should be on the quality of activities. In detailed, students nowadays want to attend to both social and academic activities that can provide them with chances to improve skills and to apply knowledge to reality. Moreover, having students to participate in the national and international competitions will bring a huge benefit to the school in the long run. The benefit is not only the student satisfaction but also the image and reputation aspects.

Occur with the development of image, service quality must also be emphasized. In this study, the quality of services mentioned is the issues related to lecturer, curriculum, and training facilities. The ideas are parking lot expansion and bus shelters expansion. In addition, investment in laboratories and equipment to supports for student learning, is an essential recommendation.

C. LIMITATIONS & RECOMMENDATION FOR FUTURE RESEARCH

Limitations: The limitation of this research is that data collected on from IU that the result above cannot represent for the foundation of all international universities and institutions in Vietnam.

Moreover, short time of collecting data is one of the limitations of this study. Surveys were collected in less than one month that the reliability of data cannot meet the perfection.

Recommendation for future research: The same research question needs to be constructed in the same industry, higher education sector. Because the finding of this study cannot represent for all international universities in Vietnam, future research should collect the data from all the international institutions to have more of representative results.

The items defined the meaning of service quality is quite poor that the future research should expand the context of service quality perceived.

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TOWARD EFFECTIVE MARKETING STRATEGIES WITH BUSINESS INTELLIGENCE

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ABSTRACT

Drastic changes in consumer markets over the last decades have increased the pressure and challenges for the retail industry. Although a huge data can be collected through the loyalty program, where customers' activities can be tracked, many enterprises still do not know how to turn data into strategies for better business decisions. This study outlines a way to incorporate a business intelligence framework into existing marketing strategies to transform data into insights and deliver analytical solutions to the enterprise. Our results show that the proposed framework is capable of identifying target groups that are likely to participate in the marketing campaign. The ability to understand customer purchasing behavior through business analytics has become a necessity to provide a right offer to the right customer group.

1. INTRODUCTION

Drastic changes in consumer markets over the last decades have increased the pressure and challenges for the retail industry. Many enterprises demand higher levels of justification for involvement and expect returns on marketing campaigns offered to their clients. The challenge is not only for such campaigns either through traditional marketing channels, social media, or direct marketing to yield positive results but also for management to truly recognize the value of utilizing those channels. Additionally, a huge data is currently collected through the loyalty program, where enterprises can track their customers' activities through the program but the key question is on how these enterprises actually turn those collected data into actionable strategies. More importantly, big data has recently become a hot issue and is expanding in many domains, from customer relationship management, retail management, and social media marketing to process improvement and supply chain management (Stubbs, 2014). Big data is defined as "a relative term describing a situation where the volume, velocity and variety of data exceed an organization's storage or compute capacity for accurate and timely decision making" (SAS, 2012). Information technology (IT) plays a vital role in all kinds of businesses, especially in facilitating routine marketing activities. Especially, the concept of business intelligence and business analytics have emerged as techniques, technologies, methodologies, systems, and applications that help business enterprises make timely business decisions by analyzing the vast amount of critical business data collected through various enterprise systems, gaining critical insights from the structured data, and mining unstructured user generated contents (Chen, Chiang, & Storey, 2012). Turban et al., (2011) define business intelligence as an umbrella term that combines architectures, tools, databases, analytical tools, applications, and methodologies to aid in decision making. The architecture of business intelligence consists of four main components: a data warehouse, business analytics, business performance management (BPM), and a user interface (Turban, Sharda, & Delen, 2011). Many studies have addressed various aspects of business intelligence and business analytics applications in the era of big data. The key concept of big data and analytics is to use analytical techniques to describe, explore, and analyze large and complex dataset that requires advanced data storage, management, and visualization technologies (Chen et al., 2012). Wu et al., (2014) propose a big data processing framework consisting of three tiers: big data mining platform in Tier 1, big data semantics and application knowledge in Tier 2, and big data mining algorithms in Tier 3. The study shows that to unleash the full power of big data, high-performance computing platforms, demand-driven aggregation of information sources, data mining and analysis techniques, and user interest modeling are required (Wu, Zhu, Wu, & Ding, 2014). In fact, advanced analytics through data mining approaches have been applied to identify customer behavior patterns in retail, direct marketing, and customer relationship management for decades (Davenport, 2006; Gopal, Marsden, & Vanthienen, 2011; Harding, Kusiak, & Shahbaz, 2006). The key concept of data mining

is to incorporate both statistical and analytical techniques to effectively and efficiently identify intrinsic patterns from large amount of data and interpret them into useful information within a particular context (Jackson, 2002; Turban, Sharda, & Delen, 2011). Bose and Chen (2009) provide an intensive review of machine learning techniques, such as logistic regression, decision trees, neural networks, and genetic algorithms, commonly used for selection of targets for direct marketing. They also provide a summary of data used in direct marketing models, from demographic, lifestyle, socio-graphic data to transaction records, feedback, and customer preferences (Bose & Chen, 2009). Particularly in retail marketing, data mining is used significantly to understand the customer segments based on the records of shopping transactions through the use of credit cards and point-of-sale systems. Retailers can utilize data mining techniques to predict which products customers tend to purchase together, forecast the likelihood customers will purchase products in the store, develop profiles of customers who purchase particular items, examine patterns in stores, or determine the ideal layout for a specific store (Rygielski, Wang, & Yen, 2002).

However, even with having access to vast troves of data and content, many enterprises still do not know how to turn the customers' data into actionable marketing strategies for better business decisions. Additionally, the traditional descriptive statistics, conventional regression analysis, or even optimization methods currently employed at the enterprises are not designed to handle and support big data and analytics. This study seeks to fill this gap and outlines a way to incorporate a business intelligence framework into existing marketing strategies to transform data into insights and deliver analytical solutions to the enterprise. A case study from a supermarket in Thailand has been conducted to explore the implications of business intelligence and business analytics in the retail industry. Particularly, the business intelligence framework presented in this study can provide fruitful avenues for exploring the implications of database marketing and analytics in the retail industry, contributing to both knowledge and practice.

2. BUSINESS INTELLIGENCE AND FRAMEWORK

In this study, a business intelligence (BI) framework is introduced to make better marketing decision. Figure 1 presents a BI framework that combines the architectures of database management, business analytics, business performance management, and data visualization (Turban et al., 2011; SAS, 2012; Rivera & Meulen, 2014) to manage, observe, and analyze customer data. The details of each layer are explained as follows:

Database management layer contains a repository of current and historical data collected to support decision making. Marketing analysts usually require relevant, concise, and dependable information about their customers to for analytical processing activities; for instance to identify both a top tier of profitable customers and a bottom tier of unprofitable customers, to propose marketing strategies to retain their existing customers and to acquire new customers, or to figure out other lower-cost distribution channels etc. One of the problems many analysts are facing in data analytical processing is that data is redundant, inaccurate, and unverifiable leading to bad decision due to the poorly designed database. Thus, the focus is on how to consolidate data from many resources of an enterprise to support such activities. Database management layer is designed to enable easy creation, effective access, and modification of database. Database management layer consists of “*data warehousing*”, which is a subject-oriented, integrated, multidimensional, and nonvolatile collection of data spanning long time period across an entire enterprise, “*data mart*”, which refers to a subset of data warehouse specifically designed for a single subjects such as product, sale revenue, purchasing, or customer data marts, “*Matadata*”, which is documentation that describes data, often called data about data. Data, which can be gathered from both external and internal resources, needs to be cleansed and organized following the existing format of any enterprise' data management systems, and consequently, populated into the data warehouse.

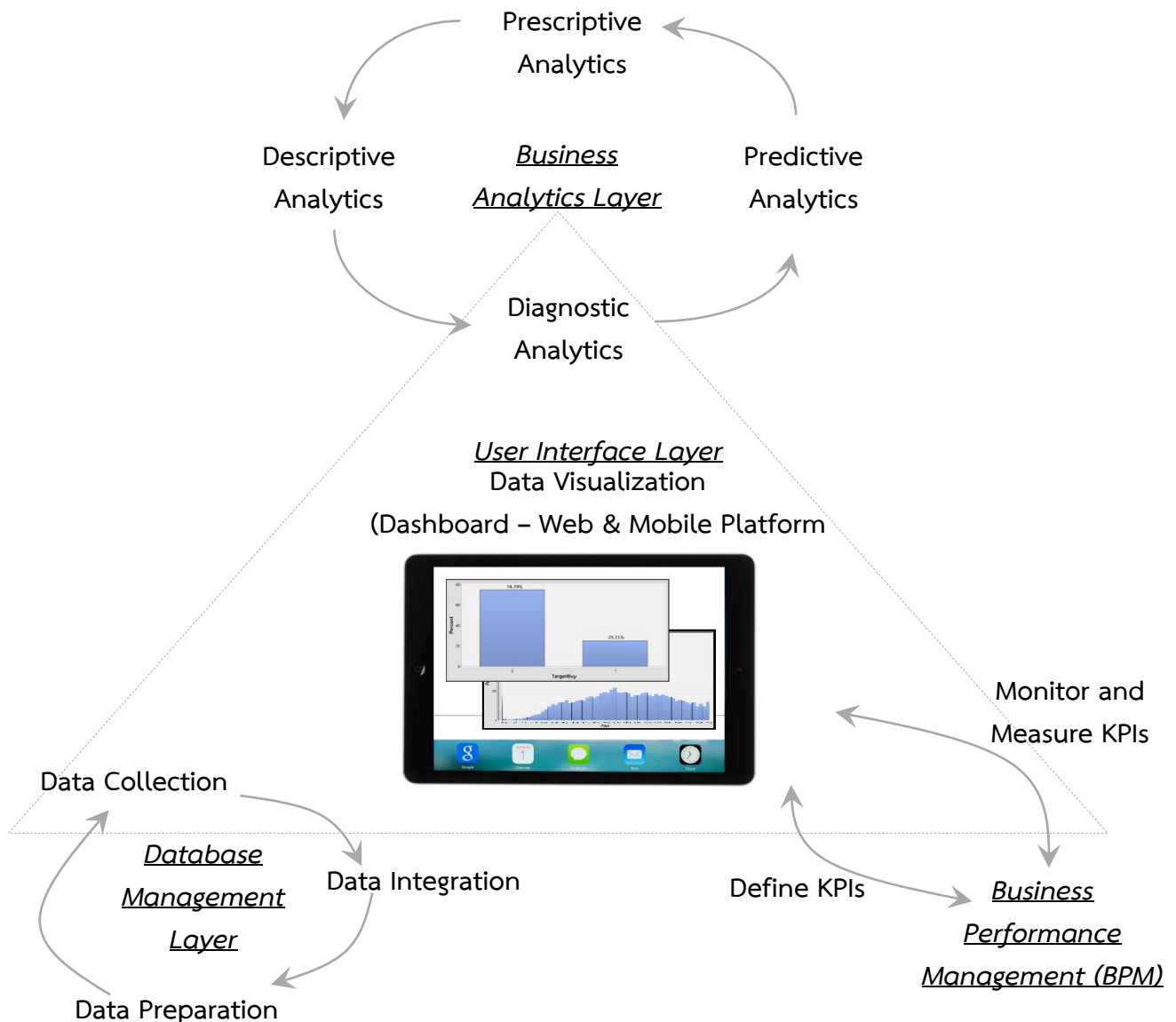


Figure 1. Business Intelligence Framework.

Business Analytics layers refers to a variety of tools and techniques incorporating both mathematical techniques and statistical analysis to analyze the corporate data or to gain insights about their customers. Gartner (2016) defines Business Analytics as ... a solutions used to build analysis models (data mining, predictive analytics, applied analytics and statistics) and simulations to create scenarios, understand realities and predict future states (Rivera & Meulen, 2014). Davenport (2006) presents the value of business analytics and how enterprises use analytics to build competitive strategies and extract maximum value from their business processes (Davenport, 2006). Business analytics involve the use of data and quantitative techniques from simple to complex mathematical models to make better decisions, discover insights from the data, drill down to the details of the data, improve processes, or achieve desired outcome rather than just reports and queries. Many enterprises often utilize data captured from their loyalty programs to understand the customer's purchasing behavior in details starting from when a purchasing is made, how often these similar transactions happen, when and what type of coupons or discounted offer the enterprises recently sent out are used to which locations customers visit the most or the combination of products customers usually purchase together, for instances. Data mining is one of the popular approaches to search for unknown relationships and to discover knowledge or information on large databases. Data mining is often used by many enterprises to predict future behaviors and trends so that they can proactively knowledge-

driven decisions ((Turban et al., 2011; SAS, 2012). Gartner identifies four types of analytics capability which help enterprises move from traditional descriptive analytics (what happened?), to advanced diagnostic analytics (why did it happen?), predictive analytics (what will happen?), and prescriptive analytics (how can we make it happen?) (Rivera & Meulen, 2014).

Business Performance Management (BPM) Layer concerns a set of performance management that helps enterprises translate their strategies and objectives into actionable plans. Many enterprises often think about BPM as metrics and methodologies to measure, monitor, and manage their business performance in order to achieve their goals. For instances, Eckerson (2009) view a BPM system as strategy driven encompassing a closed-loop set of 4 components: 1) Strategy, 2) Plan, 3) Monitor/Analyze, and 4) Act/Adjust. The first step is to set up mission, values, goals, objectives, incentives, and strategy maps. The second step is to establish budgets, plans, forecasts, models, initiatives, and targets. The third step focuses on developing performance dashboards, reports, and analytical tools to monitor actual performances against the defined goals and objectives. The last step is to close the loop by taking corrective actions to active optimum performance (Eckerson, 2009). It is very important for the enterprises to define the right key performance indicators (KPIs) to measure their strategic objectives and performance against the specific goals. Such KPIs should measure the key activities that have a significant impact on the strategic direction of the enterprises; for instances, customer performances (customer satisfaction, customer retention, or customer acquisition), sale performance (conversion of inquiries to leads, sales meeting secured, or average call closure time), service performance (service-call resolution rates, service renewal rates, service level agreements, delivery performance, or return rates), and sales plan/forecasts (price-to-purchase accuracy, purchase order-to-fulfillment ratio, quantity earned, forecast-to-plan ratio, and total closed contracts) (Turban et al., 2011).

User interface layer, usually in the form of dashboard, graphical interface, geographical maps, or other information broadcasting tools, is developed to provide a comprehensive visual view of data and information. Good dashboard should allow users to interact with the systems, to link decision making to the organizational performances, to track actual performance against the desired metrics, and more importantly, to link all of the data management layer, business analytics later, and business performance management layer together (Turban et al., 2011).

3. PRELIMINARY RESULTS AND DISCUSSION

A case study of a retail supermarket is conducted to evaluate the deployment of business intelligence framework. The supermarket has launched its customer loyalty program for a decades but not fully utilize its data collected from the loyalty program to understand its customer purchasing behavior. Currently, the supermarket is offering a new campaign “BOGO-50%OFF” for a gift set of “Dark-Spot Remover”, meaning that customers who purchase any product of \$50 or more are eligible to purchase a gift set at a 50% discount. This gift contains 4 main products including Dark-Spot Cleanser, Dark-spot Day Care, Dark-Spot Night Repair, and Dark-Spot Lotion.

Before launching such campaign, the supermarket’s management wants to determine which customers are likely to participate in this campaign. A sample of 23,000 customers was randomly selected to receive the BOGO-50%OFF offer. The marketing team promptly monitors how and when these customers purchase the gift set for approximately a month. The detail of the variables used in this analysis can be categorized into three sections

- Demographic information includes Age, Gender, Affluence grade, Residential Zone, Geographic Region, and Advertisement Zone
- Loyalty card member information includes Loyalty Class, Loyalty Time, Total Spending, Time Since Last Purchase, Total Day Care Products Purchased, Total Night Repair Products Purchased, Total Cleansing Products Purchased, and Total Lotion Products Purchased
- Marketing channel-related information includes social media information (Facebook Like on the “Dark Spot Remover” advertisement), the use of mobile application, and Campaigned-Email Response.

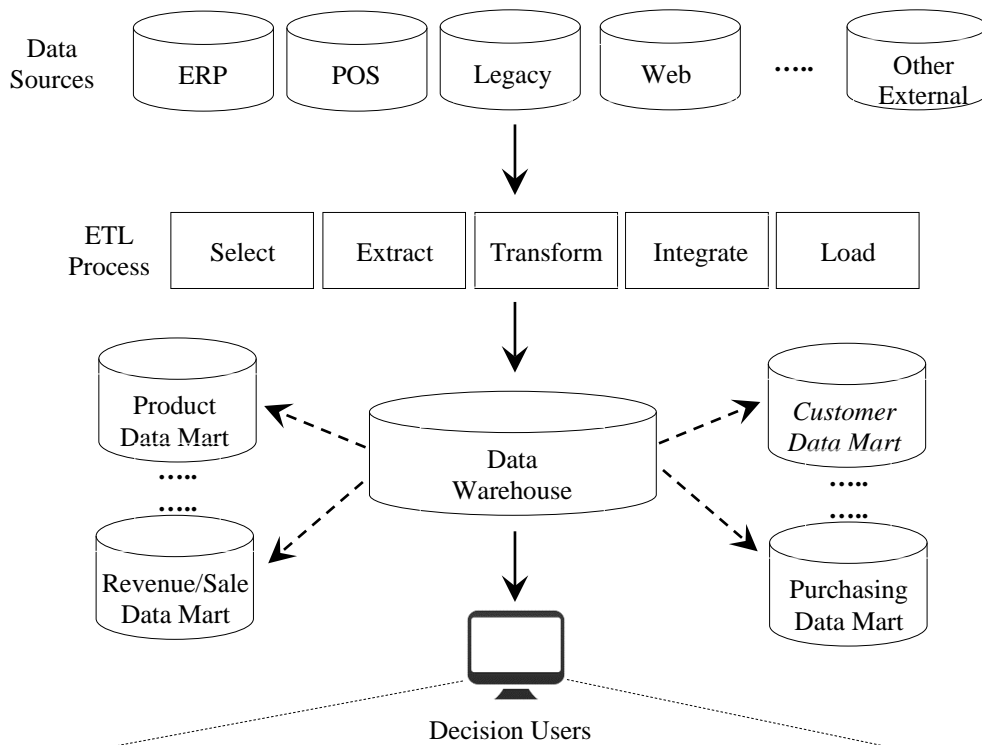
The objective of this analysis is to determine the characteristics of customers who are likely to purchase the gift set.

Database Management Layer

Data sources are imported from many resources from both traditional point of sale (POS) and online transaction data. Customers' data are collected from the loyalty program where the company is used to track customer activities such as following up transactions customers make including date and time or reward points customers redeem. Data feed into the enterprise data warehouse is extracted, transformed using ETL processing (select, extract, transform, integrate, and load), cleansed, organized, and simplified into a consolidated view so that marketing analysts can access and perform extensive analysis in a timely manner. Figure 2 presents enterprise data management layer with examples of data used in the analysis such as customer profiles, and transaction data by months and stores.

Business Performance Management (BPM) Layer

The goal of this analysis is to determine target customers, who are likely to respond to the direct marketing campaign the company is about to launch. After building predictive models on a dataset of customers, who respond to last year's campaign, marketing analysts decide to use the following three measurement criteria: Response Rate, Lift, and Gain to determine which customer groups are worth the effort for direct campaign solicitation. These criteria are used to measure the effectiveness of the predictive models by the ranking order of the predicted probabilities of customers, who are likely to respond favorably to the campaign. The confusion matrix is also calculated to measure the performance of the model. False negative, prediction accuracy, and misclassification rate are measured (see Figure 3). In this study, target variable is defined as follows: 1 (Yes) = customers, who responded to the "BOGO-50%OFF" offer and 0 (No) = customers who did not. False negative (Target = 1 and Outcome = 0) represents the case of an error in the model prediction where model results indicate that customers do not respond to the campaign, when in reality, customers actually respond to the campaign. The false negative value should be as low as possible. The proportion of cases misclassified is very common in the predictive modeling. However, the observed misclassification rate should be also relatively low for model justification. Lastly, prediction accuracy is evaluated among model developed on the testing dataset. The higher the prediction accuracy rate, the better the model to be selected.



Customer Profile

	CUST_ID	HOME_POSTAL	OCCUPATION	EDUCATION	PERSONAL_INCOME	HH_INCOME
1	9010017776410	73000	4	4	B	4
2	9010017778093	71000	1	4	B	2
3	9010017778424					
4	9010017778440	71210	0	0	0	0
5	9010017778556	71110	1	3	B	2
6	9010017778929	71240	4	2	6	8
7	9010017778933	71000	4	4	B	4

Monthly Transactions

	CUST_ID	TRANS JAN	TRANS FEB	TRANS MAR	TRANS APR	TRANS MAY	TRANS JUN	TRANS JUL	TRANS AUG	TRANS SEP	TRANS OCT
8	9010017778093	9	16	27	34	18	13	20		9	21
9	9010017778424	3	14	25	10						
10	9010017778440			10							
11	9010017778556	19	5								
12	9010017778929	34	31	27	12						
13	9010017778933	2	3	12	4						
14	9010017778933	11		12	4						
15	9010017778933			2	4						
16	9010017778933			2	4						

Transactions by Stores

	CUST_ID	Transaction	Totalsale	STORE_CODE	Store_Format
1	0000020618223	1	1485.009	009	TSR
2	0000020670955	2	517.5	017	TMC
3	0000020864330	2	1012.5	031	TMS
4	0000020884758	1	300	031	TMS
5	0000020989170	3	742.5	036	TSS
6	0000020989170	4	963.75	690	TDS
7	0000021157219	1	1425	114	TMR
8	0000021157318	1	525	047	TMS
9	0000021157363	1	1125	114	TMR
10	0000024933841	1	300	727	SKW
11	0000030035010	1	750	727	SKW
12	0000030959026	5	3093.75	031	TMS
13	0000032254037	1	442.5	056	TMR
14	0000032319026	1	450	005	TMR
15	0000032476026	1	367.5	140	TMS
16	0000033916026	1	7500	727	SKW

Figure 2. Data Management Layer.

		Target (Actual Value)	
		No (0)	Yes (1)
Outcome (Predicted Value)	No (0)	True Negative (TN)	False Negative (FN)
	Yes (1)	False Positive (FP)	True Positive (TP)

Per – Class Accuracy	$\frac{TN}{TN + FP}$	$\frac{TP}{FN + TP}$
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Overall Accuracy	=	$\frac{TP + TN}{TP + TN + FP + FN}$
False Negative	=	$\frac{FN}{TN + FN}$
Misclassification Rate	=	$\frac{FP + FN}{TP + TN + FP + FN}$

Figure 3. Confusion Matrix.

Business Analytics Layer

In this study, a basic classification platform “logistic regression” is used to analyze the data. Since the purpose of this study is focusing on identifying the right target customers based on the outcome of the predictive model rather than on comparing the complex predictive models (Decision Tree Models, support vector machine, or neural network model) to yield the lowest error in prediction. Thus, only stepwise logistic regression and stepwise polynomial logistic regression are used. Stepwise Logistic regression is often used to predict a binary outcome variable (Y = 1-Yes and 0-No) or multi-class dependent variables with automatic selection of independent variables. It builds the model to predict the odds of discrete variables (dependent variables) by a mix of continuous and discrete predictors, instead of by point estimate events as in the traditional linear regression model, as the relationship between dependent variables and independent variables is non-linear. The emphasis of stepwise procedure is on choosing predictor variables that best explain a particular predicted variable on the basis of statistical criteria. Stepwise Polynomial regression is an enhanced regression to predict a dependent variable on the basis of n independent variables. It is commonly used when the relationship between target variables and the explanatory variables is toward a complicated non-linear phenomenon. See Figure 4 below for the basic logistic regression formula. For a technical summary, including both algorithms and their applications for the model development, see (Jackson, 2002 and Turban et al., 2011).

Logit (Y=1)	=	$b_0 + b_1X_1 + b_2X_2 + \dots + b_nX_n$
Logit (Y=1)	=	Log (odds (Y=1))
Odds (Y=1)	=	$e^{(b_0)} * e^{(b_1X_1)} * e^{(b_2X_2)} * \dots * e^{(b_nX_n)}$
p	=	$\frac{\text{Odds}}{(1+\text{Odds})}$

Figure 4. Logistic Regression.

The focus of this analytics layer is on utilizing the three key measurement criteria to evaluate the model performance in selecting the right target customer groups for the upcoming mailed campaign. After employing the predicting models on the sample dataset, the first task is to rank the sample from the highest scoring to lowest scoring (the probability of yes or “1” response). The second step is to divide the ranked scores into 10 equal buckets, where the first bucket, also called the first decile, contains the top 10% of customers who are likely to respond to the campaign. The second bucket contains the next highest probability scoring 10% of the samples.

Each bucket represents about 10% of the data. Response rate, Lift, and Gain of each bucket can be calculated in Figure 5:

$$\begin{aligned}
 \text{Response Rate in a bucket} &= \frac{\text{Number of Responders in a bucket}}{\text{The total number in a bucket}} \times 100 \\
 \text{Lift of a bucket} &= \frac{\text{Response rate in a bucket}}{\text{Overall response rate across all buckets}} \\
 \text{Gain of a bucket} &= \frac{(\text{Response rate in a bucket} - \text{Overall Response Rate}) * 100}{\text{Overall response rate across all buckets}}
 \end{aligned}$$

Figure 5. Response Rate, Lift, and Gain Calculation.

User Interface Layer

The business intelligence is developed using both SAS Enterprise Miner and Tableau software. Figure 6 presents an example of dashboard developed using Tableau software allowing the marketing team to track the performance of predictive models developed to predict customers who are likely to buy the “Dark-Spot Remover” gift set through the “BOGO-50%OFF” campaign. Surprisingly, 5,799 customers (25.21%) respond to the campaign. However, when considering the customers, who have been a loyalty member with the company less than a year (approximately 10,000 customers), only 385 customers or 3.85% purchase the gift set, indicating that the supermarket is not doing a good job in acquiring new customers. As presented in Figure 7, customers, who are under 43 years old, are likely to purchase the gift set than customers, who are over 43 years old.

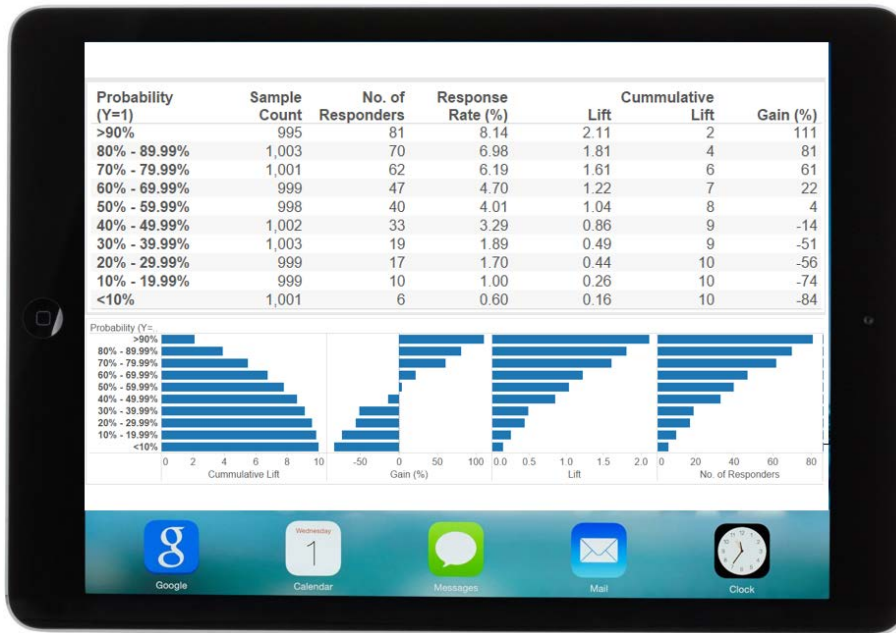


Figure 6. An Example of GUI Developed Using Tableau Software.

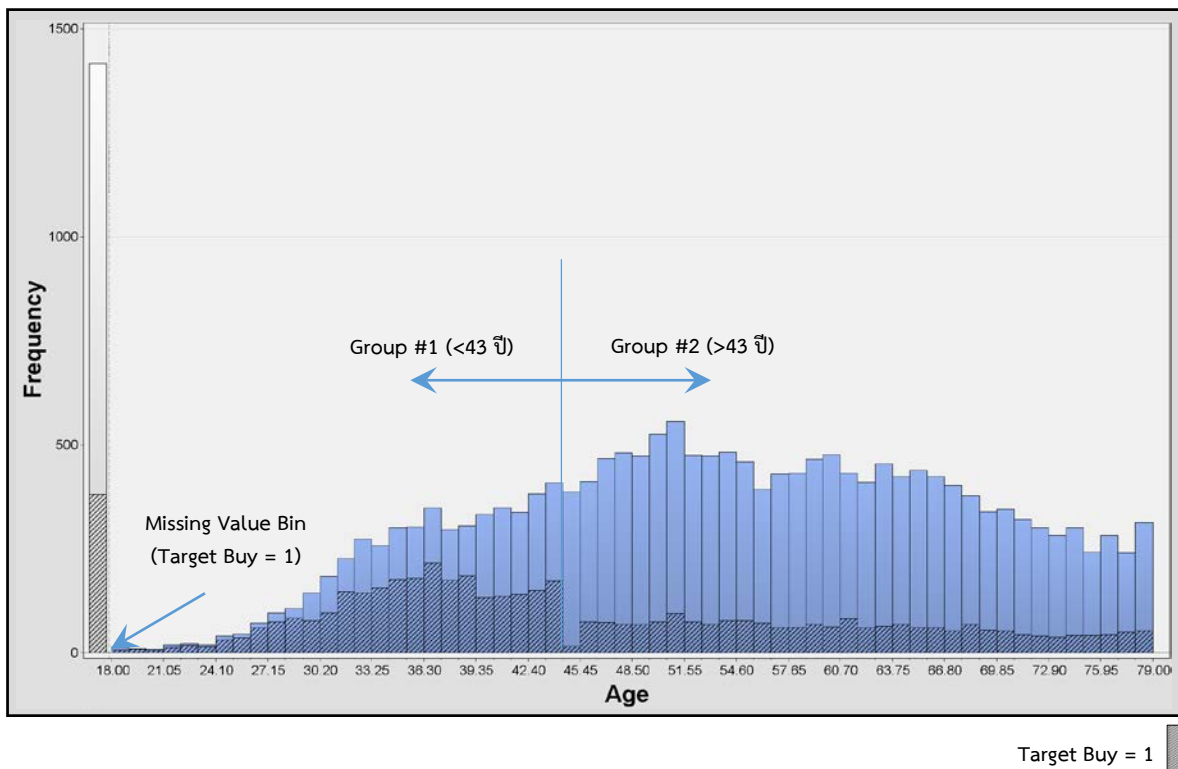


Figure 7. Histogram of Age of Customers Participating in this Campaign.

The predicted score of customers, who are likely to respond to the “BOGO-50% OFF” offer, is ranked into 10 deciles (see Figure 8). Approximately 8.14% of customers are in the top 10 decile (the group of customers, who have the probability of purchasing “Dark-Spot Remover” over 90%). Customers in this group are mostly female, over 44 years old, have responded to the BOGO-50% OFF offer at least once in the past, have purchased Day Care Product at least twice since 2015. Customers in the second top decile offer another interesting view point. Customers in this group are usually in active on mobile application, click “like” the ad on “Dark-Spot Remover” on the Facebook page, and have purchased

Night Repair Products at least twice since 2015 but have never opened or even clicked through an email the supermarket sent out regarding the “Dark-Spot Remover” advertisement.

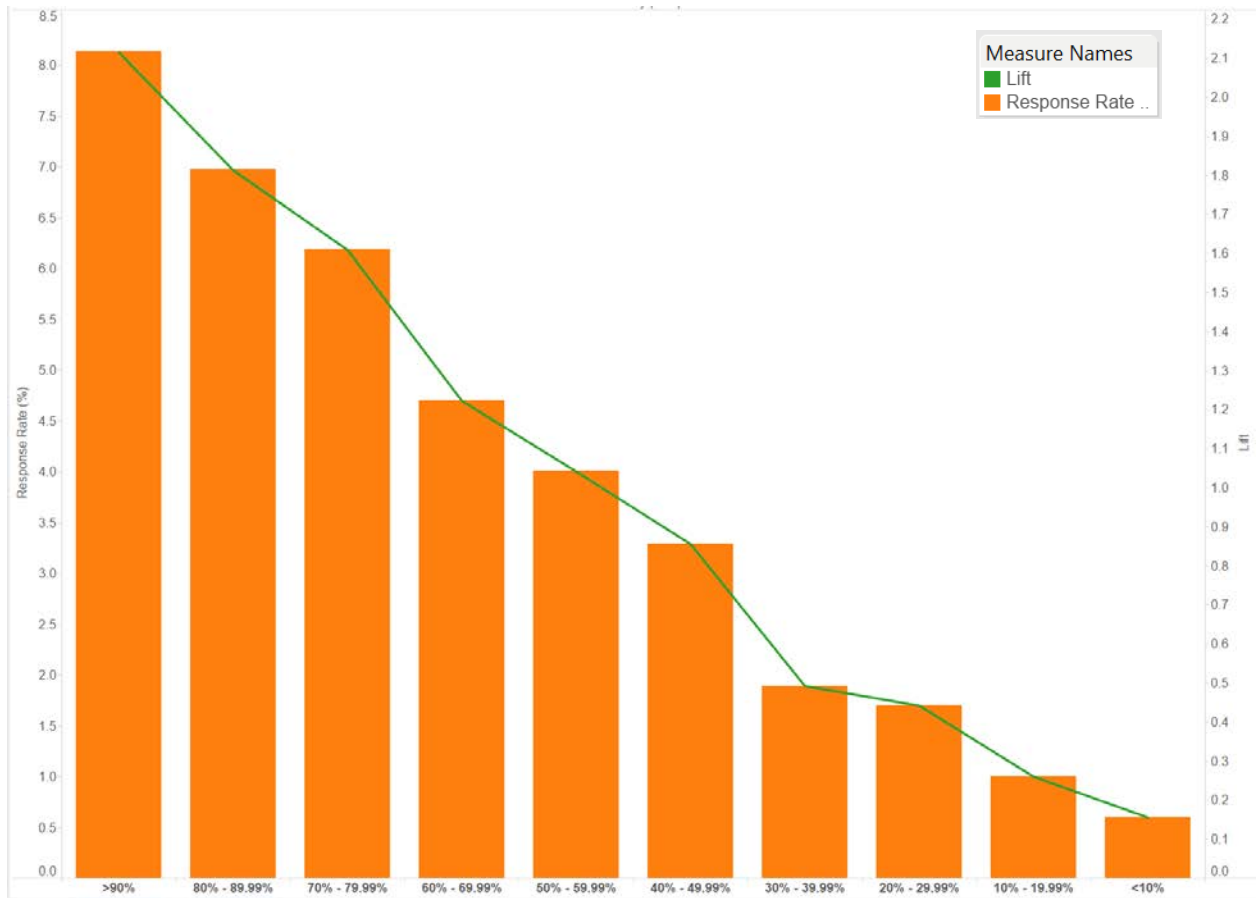


Figure 8. Lift and % response rate.

The lift greater than 1 as presented in Figure 8 also indicates that the predictive model is pretty good in separating the primary (Y = 1) and secondary (Y = 0) cases. Additionally, Gain Charts is also widely used in targeting customer group. Any decile groups (see a value of % gain in the table in Figure 6) with positive % gain are worth pushing the marketing effort. As a result, when applying the predictive models developed from these sample 23,000 customers on the rest of the customers in the loyalty program, customers, who are in the decile groups that have the probability to purchase “Dark-Spot Remover” giftset over 70%, should be targeted for this new promotion. The result of stepwise logistic regression suggest that the older customers and customers with higher spending are less likely to participate in the campaign. Interestingly, female customers and customers, who have purchased Day-Care and Night-Repair products in the past, who are active in using the supermarket’s mobile application, who like the ad on “Dark-Spot Remover” on the Facebook Page”, and who have participated in the previous “BOGO-50%OFF campaign the supermarket offered in the past, are likely to purchase “Dark-Spot Remover” giftset.

$$\text{Logit (Y=1)} = -3.13 - 0.0768 (\text{Age}) + 0.544 (\text{Female}) + 0.001(\text{Facebook Like}) - 0.0008 (\text{Total Spend}) + 0.24 (\text{Mobile Application}) + 0.118 (\text{Previous BOGO-50\% OFF Campaign}) + 0.213 (\text{Night-Repair Products}) + 0.05 (\text{Day-Care Products}) + 0.91 (\text{Affluence Grade})$$

4. CONCLUSION

The proposed business intelligence framework consists of four major components: database management, business analytics, business performance, and user interface layers. Our results show that the business intelligence framework is capable of identifying target groups that are likely to participate in marketing campaign the company is offering. Successful marketing analysts require careful planning and comprehensive analysis of data and information obtained from the loyalty program. The ability to identify and understand customers' characteristics and purchasing behavior through business analytics has become a necessity in order to provide a right offer to the right customer group.

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IMPROVING JOB SATISFACTION: THE CASE OF ADGC (AL DAKHNAN GROUP OF COMPANIES) NON-ARAB EMPLOYEES IN KUWAIT

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I. OBJECTIVES

Significance of the Study

This study is pursued due to the fact that the researcher has first-hand experience with Al Dakhnan Group of Companies (ADGC) in Kuwait that privileged him to witness the overall business environment. Thus, the researcher's interests and motivations to conduct this study were generated.

In addition, the researcher found importance to this study since it would give ADGC management some useful clues in formulating a concrete action plan to address the issues on job satisfaction of the frontline employees holistically. Also, the result of this study would aid the company in framing its first ever concrete and written company policy handbook which is vital in managing the employees and the company as a whole.

Moreover, this study will provide the researcher a deeper understanding about the company's business cultures and operations management. Thus, it will enhance the researcher's knowledge and skills in managing diversity and creating satisfied employees.

II. INTRODUCTION

Globalization

Globalization is one of the current trends in business operations today that every organization is looking forward to (Roma, 2012). Business operations such as human resource or acquisition of cross-cultural employees are perhaps the most easily recognized area being impacted by the global nature of business today (Fang & Kant, 2011). Also, human resource is the most significant source of change impacting many organizations (Griffin & Moorhead, 2010).

In view of globalization, organizations have a couple of ways to become involved internationally or globally. One is to seek cheaper sources of materials or labor offshore, which is called offshoring or global outsourcing (Daft & Marcic, 2011).

Global outsourcing can be done by companies to take advantage of favorable cost, to gain access to international markets, to be more responsive to changes in demand, to build reliable sources of supply, and to keep abreast of the latest trends and technologies (Russell & Taylor, 2011).

However, it should be observed that globalization is not simply an economic issue and challenge; it is also a cultural, political, ethical and ecological one (Edralin & Roque, 2005) that all businesses must pay attention to.

Global Outsourcing

Globalization requires employers to hire unique people with the cultural and language skills to deal with customers abroad (Dessler, 2012) in which the global outsourcing of back-office functions, research and development and business processes and operations is one of the macro-business trends of the 21st Century that businesses are focusing nowadays (Business Exchange, 2012).

In view of this, Jawad Al Bloushi, a business owner in Kuwait, said that hiring professionals particularly from the Philippines and Sri Lanka is one of the top considerations of small and medium business owners in Kuwait to keep itself profitable and globally competitive (Personal conversation, March 30, 2010).

Visit Kuwait (2012) stated that Kuwait is experiencing shortage of skilled and non-skilled personnel to keep pace with the booming businesses and industries. Even though there is a shortage, McGinley (2012) said that Kuwait's population rose to just over three million last 2011, with expatriate workers now accounting for nearly two thirds of total residents based on the results of the 2011 government census. In addition, the average population growth between 2005 and 2011 was around 5.4 percent, with the expatriate population growing at a faster rate of 6.7 percent, compared to 3.3 percent per annum for locals (Arabian Business, 2012).

Workforce Diversity

In view of the global outsourcing, nearly everyone in today's workforce is well aware of cultural diversity. Daft and Marcic (2011) said that demographic changes in the local workforces clearly reflect the move to a global marketplace and this includes a global workforce in most of the world's international cities. Also, population projections suggest that the trend to a diverse workforce will be amplified in the coming decades (Mor Barak, 2005), thus choices for selecting workers are much broader, with more expatriates joining the ranks of local workforces than ever (Fang & Kant, 2011).

The resulting workforce diversity produces both benefits and threats for the company (Dessler, 2012; Griffin & Moorhead, 2010), thus organizations must study socialization much more closely and intervene so that the maximum benefits result from hiring an increasingly diverse workforce will be achieved (Ivancevich, Konopaske, & Matteson, 2008).

George and Jones (2007) posit that organizations are now learning how to truly value diversity and to celebrate the differences among all employees. In addition, Van Huis (2012) said that organizations must be open about the differences represented by employees and encourage sharing the unique things about them.

In connection, organization must inquire about and understand the cultural differences and motivators for each employee which greatly impact their job satisfaction (Van Huis, 2012) because workers from different countries find it in different ways (Heywood, 2008). Thus, managing diversity and bringing job satisfaction to each employee makes the Human Resource Management job more complex, strategic, and challenging than ever before (Edralin & Roque, 2005).

Theoretical Framework

This part discusses the reasons and factors behind employees' general attitudes or job-related attitudes such as satisfaction and dissatisfaction which tend to keep them in the company under numbers of disconformity and uncertainties.

Job Satisfaction

Job satisfaction is a collection of pleasurable feelings and beliefs that results from the perception that one's job fulfills or allows for the fulfillment of one's important job values about their current jobs (George & Jones, 2007; Gerhart et al., 2006, 2009).

Job satisfaction is investigated by several disciplines such as psychology, sociology, economics and management sciences and is a frequently studied subject in work and organizational literature. This is mainly due to the fact that many experts believe that job satisfaction trends can influence work productivity, work effort, employee absenteeism and staff turnover (European Foundation for the Improvement of Living and Working Conditions, 2007) and impact both the individuals and organizations (Dennis & Eleswed, 2012).

In order for a company to maintain a satisfied and productive employee, every company should be aware of how satisfied their employees are in their current job. According to Ellazar (2011), there are many factors to consider when determining the level of job satisfaction one has. Stone (2009) classified the common job satisfaction factors that include pay, promotion opportunities, fringe benefits, supervision, colleagues, job conditions, nature of work, communication, and job security.

Hence, failure of a company to provide satisfaction components or factors will result to job dissatisfaction which entails job withdrawal such as behavior change, physical job withdrawal, and psychological job withdrawal (Gerhart et al., 2006, 2009).

Two-Factor Theory

Frederick Herzberg’s research led to the conclusion that employee satisfaction and dissatisfaction stem from different sources (Certo, 2008).

According to this two-factor theory, dissatisfaction results from the absence of what Herzberg calls hygiene factors, which include salary, holidays, vacations, pensions, good working conditions, and relationships with others (Bittel & Newstrom, 1990).

Satisfaction results from the presence of Herzberg calls motivating factors, such as interesting and challenging work, utilization of one’s capabilities, opportunity to do something meaningful, recognition of achievement, and responsibility for one’s work (Blanchard, Hersey & Johnson, 2008).

Herzberg found that employees are most productive when the organization provides a combination of desirable hygiene factors and motivating factors (Byars & Rue, 1996, 2006). According to this theory, an organization cannot ensure that its employees will be satisfied and productive simply by giving them a big pay raise every year (Certo, 2008).

Therefore, Herzberg claimed that factors that lead to job satisfaction are the higher level of needs from Maslow’s hierarchy of needs theory being social, esteem, and self-actualization (Kinicki & Williams, 2008; O’Brien, 2003). Hence, the lower levels of the hierarchy such as physiological and safety are the primary cause of dissatisfaction when absent (390; 5).

Paradigm of the Study

The purpose of this study is to determine the Job Satisfaction Level of employees. Hence, the researcher assigned the Job Satisfaction of ADGC frontline employees as the Dependent Variable and Job Satisfaction factors based from the Minnesota Satisfaction Questionnaire as the Independent Variables for the study.

According to Scott, Swortzel & Taylor (2005), when considering job satisfaction, demographic variables should be considered to thoroughly understand the possible factors that lead to job satisfaction and dissatisfaction. In connection, their findings tell that Age, Education, and Marital Status are not related to job satisfaction. On the other hand, demographic variables such as Gender, Length of Service, and Nationality are all related. In this sense, the researcher considered Gender, Length of Service, and Nationality as the Moderator Variables.

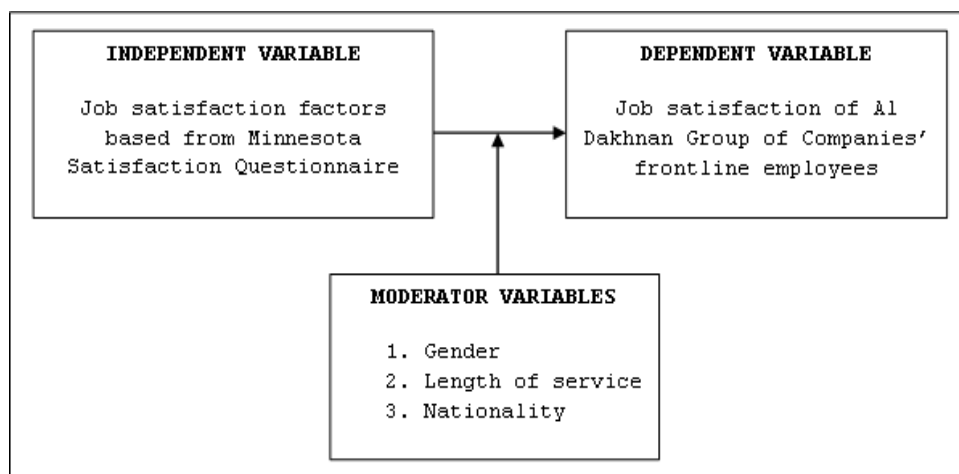


Figure 1. Paradigm of the study

About the State of Kuwait

Location and Geography

Kuwait is a small country located in the Middle East on the Persian Gulf, between Iraq and Saudi Arabia. It is a desert country with intensely hot summers and short, cool winters. The terrain varies minimally, between flat and slightly undulating desert plains (Culture in Kuwait, 2007).

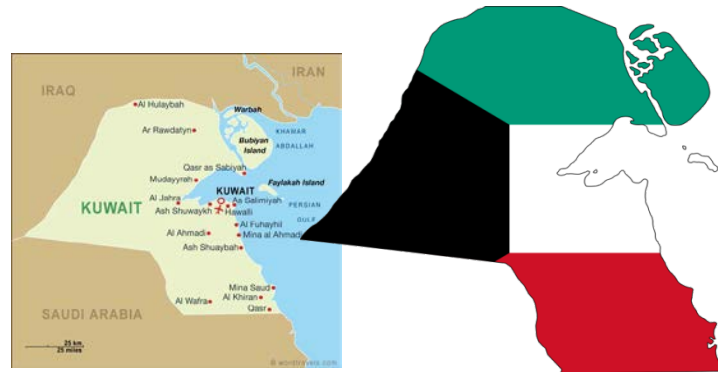


Figure 2. Kuwait map

Social Stratification

There are five levels of social stratification (*Classes and Castes*) in Kuwaiti society, and these divisions are based on wealth. At the apex of the social hierarchy is the ruling family. Below that are old Kuwaiti merchant families. In the middle of the strata are former Bedouins, Arabian Desert nomads, who settled in Kuwait with the advent of the oil industry. Next come Arabs from neighboring countries, and at the bottom of this hierarchy are foreigners (Culture in Kuwait, 2007). Within this hierarchy there are enormous gaps between the vastly rich, the middle class, and the extraordinarily poor migrants (Arabic Business Etiquette, 2012; Culture in Kuwait, 2007).

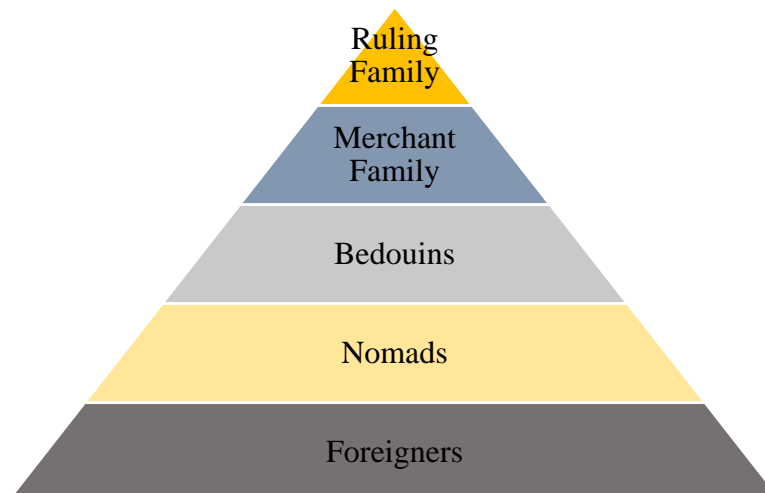


Figure 3. Kuwait social stratification

Dominant Alpha Male

In Muslim society, the Muslim alpha male respects only another Muslim alpha male and only if he can demonstrate that he has everything under control; otherwise he will be despised (Roberts, 2010). The non-Muslim is at the bottom of the hierarchy and is treated with the utmost contempt and Kafirs are dirty subhuman to a Muslim. The kafir is similar to an animal that has no right to graze the land or drink at the water-hole and only right is to be preyed upon for food (1).

Kafeel System

Under the present kafeel system, foreign laborers are at the mercy of a single Kuwaiti sponsor, who has sole discretion over whether the employee can change jobs or leave the country (Culture in Kuwait, 2007). Until now, Kuwaiti law has made this population vulnerable to abuse and enslavement (1). Expatriates come to Kuwait to work and at the end of their contracts are expected to return to their native lands rather than remain in Kuwait (Kuwaitiah Network, 2012). But in many cases an expatriate may transfer his residence to a new sponsor provided the current sponsor agrees (1).

Residency Articles/Visas

In Kuwait, there are two types of work permit that are given to expatriates (Kuwait Times, 2010). Foreigners working for private sectors are granted of a residency in Kuwait under Article/Visa 18. On the other hand, foreigners working as servants in households are granted under Article/Visa 20 (1). There are few differences between the two articles which made Visa 20 more advantageous.

Gender Roles and Statuses

Both Kuwaiti custom and law enforce a division of labor by gender. Unlike other Arabic countries, women are involved various aspects of the labor force, but the percentage of women involved in labor outside of the home is small. Those women who are gainfully employed often work in the social services, in clerical positions, and as teachers. Few women are owners or managers of small businesses (Culture in Kuwait, 2007).

Dewaniya

The dewaniya is a fundamental part of Kuwaiti life once or twice a week (Alhabib, 2009). Dewaniya in Kuwait are places used primarily by men for regular social, political, economic, local or international matters may be discussed. The Constitution of Kuwait provides for freedom of assembly, so it protects the rights of the citizens to own and hold dewaniya. However, like any public gatherings of more than five people in Kuwait, dewaniya requires government approval (7).

Etiquette

It is common for members of the same sex to touch one another during their interactions as an expression of their friendship, and men often shake hands upon greeting and departure (Culture in Kuwait, 2007). Socially, physical contact between men and women is not acceptable. To Kuwaitis, honor, reputation, and respect are primary concerns (1).

Religion

The main religion in Kuwait is Islam which also a major influence in all business establishments (Culture in Kuwait, 2007). Approximately 85 percent of the population is Muslim. The remaining 15 percent of the population practices Christianity, Hinduism, and other religions (1).

Islamic rule of law is system of government rather than a set of religious practices, thus dictates the political, social, and economic atmospheres of Arab countries (Arabic Business Etiquette, 2012). Also, the religion was initially spread through force and the Koran permits violence against infidels (Gibson, 2002). While more specific aspects of the Islamic commercial law may affect your business transactions. The general themes defining this political system are conservatism, masculinity, compliance and tradition (1).

About the Workplace

Brief History

Al Dakhnan Group of Companies was founded by the Managing Director Mr. Khalid Saad Mutlaq Al Dakhnan Al Azmi sometime in 1995 at his first branch in Ayat Center, Bahrain Street, Salmiya in the State of Kuwait and was named after his father “Saad Mutlaq Dakhnan Al-Azmi Manpower Services” (Al Dakhnan Group of Companies, 2010).



Figure 4. ADGC's logo.

Company's Industry

The company is primarily engaged with the global outsourcing of skilled and non-skilled workers from Ethiopia, India, Madagascar, Nepal, Philippines, and Sri Lanka. These workers will be deployed in Kuwait as housekeepers, private nurse, tailors, drivers, and private tutors. ADGC started with few deployments and gained a good feedback thus challenged the company to do better.

Mission and Vision

The mission of ADGC is to provide employment opportunities to qualified individuals from Ethiopia, India, Madagascar, Nepal, Philippines, and Sri Lanka and envisions becoming the leading recruitment and deployment institution in Kuwait for the next decades (Al Dakhnan Group of Companies, 2010).

Company's Achievement

Indeed, in 2010, ADGC was hailed as third among human resource agency in Kuwait according to the large number of deployments, small numbers of runaways (workers who escaped from their sponsor and seek protection to the embassy), and timely repatriations which is considered one of its greatest successes since the company has started.

Job Satisfaction Issue

However, as the company becomes successful in its endeavor, problems and obstacles regarding job satisfaction of ADGC frontline employees have emerged. It was observed by the researcher, as their Operations Manager, that the source of dismayed among frontline employees are the abrupt and unusual changes in their work schedule which they strongly despised and persistently raised for complaints.

Currently, ADGC management is implementing unusual policies and is stated below:

Work Scheme Policy for Frontline Employees (Non-Arabians)

Saturday-Thursday: 9am to 2pm, 4pm to 9pm

During Fridays: 4pm to 9pm

Workdays / Day Offs: 339 days / 26 days

Work Scheme Policy for Non-Frontline Employees (Arabians)

Sunday-Thursday: 10am to 1pm, 5pm to 8pm

Friday-Saturday: Dewaniyas

Workdays / Day Offs: 259 days / 106 days

However, the company is indeed generous when it comes to compensation or pay for the frontline employees to reward their long working hours. In fact, ADGC management is giving commissions or additional pay for every closed transaction in terms of reservations, new visas, new arrivals, and reassigned laborers.

Yet, is money the only big driver or component for employee happiness and satisfaction? Elton and Gostik (2010) stated that money definitely counts but when it comes to happy, satisfied, engaged, and stellar performing employees, money is not the grand prize.

Statement of the Problem

Job satisfaction is significant because satisfied employees are generally productive (Fang & Kant, 2011) and stays with the organization (Stone, 2009). A company can motivate employees by offering attractive compensation, thus, George and Jones (2007, 2008) claimed that pay can be used to motivate people and become satisfied, hence perform behaviors that help an organization achieve its goals that impact both the individuals and organizations (Dennis & Eleswed, 2012).

Therefore, this study is geared to determine whether pay or compensation alone is an effective tool to satisfy employees. Also, it aimed to know the overall level of job satisfaction of ADGC frontline employees. Specifically, it pursued to answer the following questions:

- 1) What is the overall level of job satisfaction of ADGC frontline employees using the Minnesota Satisfaction Questionnaire (MSQ)-short form?
- 2) What is the level of job satisfaction of ADGC frontline employees using the MSQ-short form as per moderator variables such as gender, length of service, nationality?

Research Design

The method that the researcher utilized in this study was the descriptive survey method since it involves gathering of data which describes occurrences and afterwards organizes, tabulates, depicts, and describes the data gathered (Flores, 2011).

Also, descriptive survey method collects detailed and factual information to describe existing phenomena (Calmorin & Calmorin, 2006), thus, it systematically describes a situation or area of interest accurately (Ellazar, 2011).

Population and Locale of the Study

The locale of the study focused on the employees of Al Dakhnan Group of Companies in Kuwait which comprise of Egyptian, Ethiopian, Filipino, Indian, Iranian, Kuwaiti, Lebanese, Nepali, Omani, Sri Lankan, and Yemeni.

Due to cultural constraints, the researcher opted to concentrate only on the non-Arabian employees (Ethiopian, Indian, Filipino, and Sri Lankan) of ADGC since they were also the units that are generally affected by daily business operations of the company. Specifically, non-Arabian employees are the frontline employees who consist of marketing, reservation, documentation, visa status, flight monitoring, and embassy representatives.

For the purpose of the study, a non-probability sampling design was used since it entails the identification of participants in the study based on criteria spelled out by the researcher, rather than through random selection (Flores, 2012). The researcher particularly considered a purposive type of sampling since the objective is not to have many respondents but to make sure that the persons who would serve as respondents will provide a wealth of information (7).

Also, Villacrusis (2011) mentioned that the rationale for using this sampling method was due to the respondents being easily accessible, their availability, as well as its being less time consuming and inexpensive to gather the research information.

The total population was 36 frontline employees of ADGC in Kuwait which comprised of both males and females with various lengths of service and nationalities. Therefore, the researcher employed total enumeration to serve as its total sample size.

Profile of the Respondents

In terms of gender, Figure 1 below shows that the total population consist of 21 male respondents (58%) and 15 female respondents (42%) for a total of 36 respondents (100%).

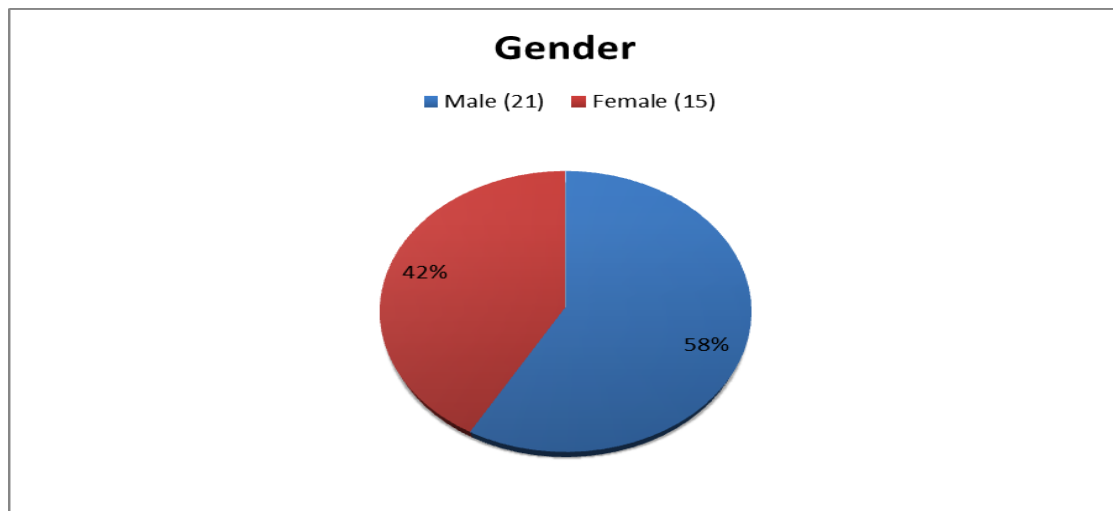


Figure 5. Gender

In terms of lengths of service, Figure 2 below displays that there are 25 respondents (69%) who have stayed with ADGC for 1-3 years. Also, there are 8 respondents (22%) who are with ADGC for 4-6 years. In addition, there is only one respondent (3%) who serves ADGC for 7-9 years. Moreover, there are two respondents (6%) who stay with ADGC for 10-12 years.

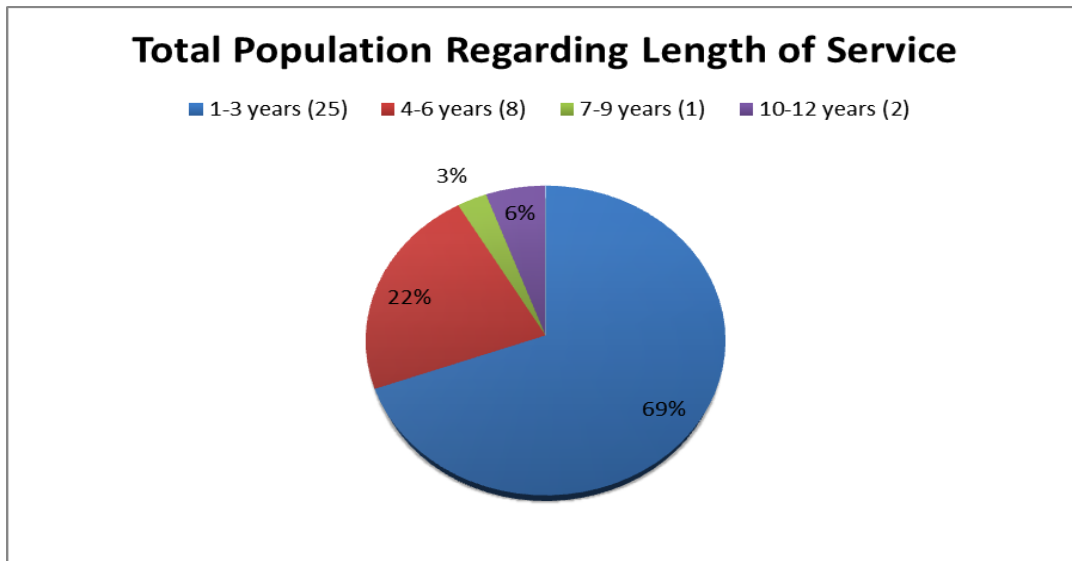


Figure 6. Length of service

With regard to nationalities, Figure 3 illustrates that there are six Ethiopians (17%), 12 Filipinos (33%), seven Indians (19%), and 11 Sri Lankans (31%) for a total of 36 respondents.

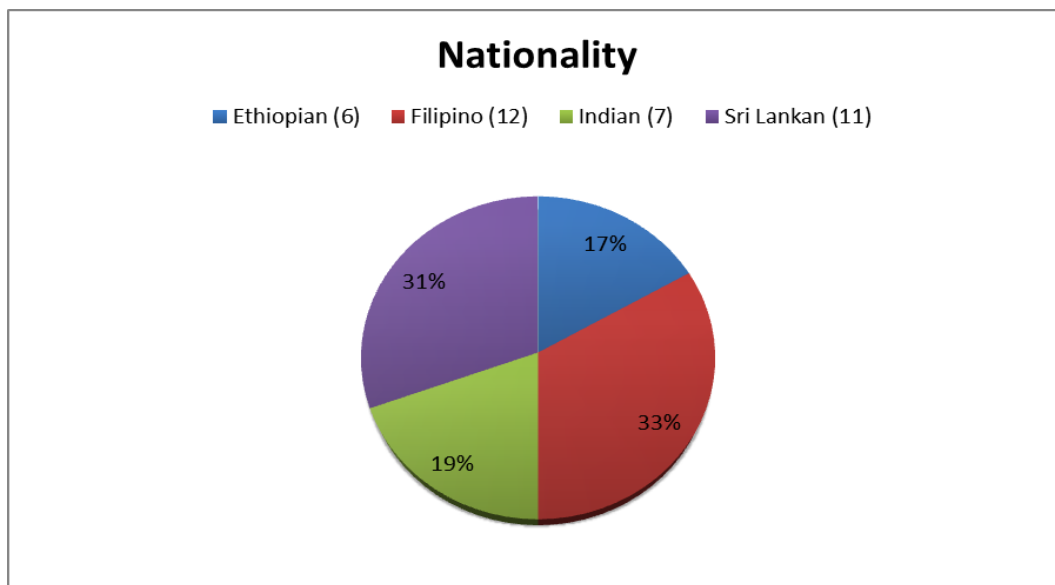


Figure 7. Nationality

Data Gathering Tool

The Minnesota Satisfaction Questionnaire (MSQ)-short form is designed to measure an employees' satisfaction with their present job (Department of Psychology: University of Minnesota, 2012).

This study used the MSQ-short form because it is convenient to secure and readily available in the internet. The University of Minnesota particularly the Department of Psychology website provides MSQ-short form for free and is giving enough information on how to interpret the gathered data. Items on the MSQ-short form were calculated the overall level of satisfaction from questions 1-20. Factor analysis of the 20 items resulted in two factors such as Intrinsic and Extrinsic Satisfaction. In relation, intrinsic factors were found in questions 1, 2, 3, 4, 7, 8, 9, 10, 11, 15, 16, and 20. On the other hand, extrinsic factors were found in questions 5, 6, 12, 13, 14, and 19. Thus, questions 17 and

18 are considered general factors. Scores on these two factors plus a General Satisfaction score may be obtained (Department of Psychology: University of Minnesota, 2012)

Data Gathering Procedure

The researcher sought permission from the Managing Director through the assistance of the Global Business Network (GBN) Manager of ADGC to conduct this study. The questionnaires were sent to Kuwait thru the e-mail address of the GBN Manager and distributed to the respondents through the help of other Filipino employees.

Along with the questionnaire is the letter seeking for their participation of the respondents in the study. The letter explained the purpose of the study, directions, and guidelines in accomplishing the MSQ-short form in order to answer the questionnaire easier. Furthermore, the researcher assured that all information gathered from the questionnaire were treated with utmost confidentiality.

The questionnaire is ideally answerable in five minutes. However, the respondents were given the liberty to accomplish it at their most convenient time to avoid issues like using work hours for unofficial businesses or any productivity issue at work. After accomplishing the questionnaire, the respondents returned the questionnaire to the GBN Manager for collation.

Treatment of the Data

The researcher did not test the reliability of the questionnaire since this instrument is a structured one and was used in numerous researches concerning job satisfaction, thus generated a very reliable interpretations. In addition, recent study of Ellazar (2011) posits that this questionnaire is 96% reliable.

The data collected from the responses on the MSQ-short form satisfaction questionnaire was computed through an average or arithmetic mean. The arithmetic mean shall be called “mean” only for this study. The mean for the MSQ-short form can be obtained by literally getting the sum of all the responses divided by the number of questions (Aguirre, Balignasay, & Coronel, 2004). Thus in this case the sum of the responses were divided by twenty (20). Once the mean was obtained, the results will be interpreted as follows:

3.26 – 4.00	Very Satisfied (VS)
2.51 – 3.25	Satisfied (S)
1.76 – 2.50	Dissatisfied (D)
1.00 – 1.75	Very Dissatisfied (VD)

III. FINDINGS AND DISCUSSIONS

Overall Job Satisfaction Level Regardless of Profile

Table 1 shows that ADGC frontline employees are **Satisfied** with their current job with a recorded mean of **2.57**. In addition, the highest recorded mean is 3.47 (Very Satisfied) for the aspect of Coworker (The way my co-workers get along with each other) which belongs to the General Factor of the MSQ. On the other hand, the lowest recorded mean is 1.42 (Very Dissatisfied) for the aspect of Company Policies & Practices (The way company policies are put into practice) which belong to the Extrinsic Factor of the MSQ. These results mean that factors of job satisfaction in the company are on the right place since frontline employees are Satisfied to the General Factor and Very Dissatisfied to the Extrinsic Factor. Hence, having opposite results will lead to a problem.

Based on the researcher’s observation to the company, frontline employees are in good relationships with each other inside and outside of the company. In addition, they are working hand in hand to accomplish all tasks assigned to them despite of their individual differences brought by diverse nationalities, religions, and cultures. Thus, aspect on Coworker recorded the highest mean.

Table 1
Job satisfaction Level Regardless of Profile

Questions	Mean	Description
1. Being able to keep busy at all time...	3.19	S
2. The chance to work alone on the job...	3.03	S
3. The chance to do different things from time to time...	2.75	S
4. The chance to be “somebody” in the community...	2.61	S
5. The way my boss handles his/her workers...	1.69	D
6. The competence of my supervisor in making decisions...	2.25	D
7. Being able to do things that don’t go against my conscience...	3.00	S
8. The way my job provides for steady employment...	2.61	S
9. The chance to do things for other people...	2.61	S
10. The chance to tell people what to do...	2.64	S
11. The chance to do something that makes use of my abilities...	2.64	S
12. The way company policies are put into practice...	1.42	VD
13. My pay and the amount of work I do...	2.78	S
14. The chances for advancement on this job...	2.00	D
15. The freedom to use my own judgment...	2.56	S
16. The chance to try my own methods of doing the job...	2.50	D
17. The working conditions...	1.61	VD
18. The way my co-workers get along with each other...	3.47	VS
19. The praise I get for doing a good job...	2.86	S
20. The feeling of accomplishment I get from the job...	3.17	S
	2.57	S

Monetary Satisfaction

The effort of the company in satisfying the frontline employees monetarily is effective enough with the mean of 2.78 (Satisfied) as shown in table 1, however the results confirmed that frontline employees are putting more premiums on the aspect of Coworker than the Compensation.

In addition, the idea that people work only for money has been thrown overboard by leading scholars (Frey & Osterloh, 2012). Thus, human beings are not interested solely in material gain but also care for the well-being of others and value recognition from coworkers (52) which is true in the case of ADGC frontline employees based on the results.

Sources of Dissatisfaction

The frontline employees are very dissatisfied with the aspect of Company Policies & Practices, and Working Condition because there are existing company policies that are not equally applicable to all. Hence, these became the main sources of dissatisfaction for the frontline employees.

Company Policies

The frontline employees are ordered to work the whole week with only half-day break during Friday morning while Arabian employees are enjoying their Dewaniyas. During that break, frontline employees are restricted in going to places due to the fear of the company that the employees will get absent at night. Thus, a letter of approval from the Managing Director must be secured before going to places even in the supermarkets. However, approval from the management always comes with a condition like the employees need to bring along an Arabian employee.

It must be noted that organization's policies can be a great source of frustration for employees if the policies are unclear or unnecessary or if not everyone is required to follow them (Ivancevich et al., 2008). Although, Deborah, Marshland & Syptak (1999) assumed that employees will never feel a great sense of satisfaction due to the policies, but it can decrease dissatisfaction in this area by making it sure that the policies are fairly and equally applied to all.

Working Conditions

In view of the ADGC work scheme policy, the frontline employees are ordered to man the offices for the whole week, thus, they do not have enough time to spend for other things like for recreations or socializations. Thus, work-life balance is practically missing in the picture which caused dissatisfaction.

Work-life balance is significant to employees because it is about creating and maintaining supportive and healthy work environments, which will enable employees to have balance between work and personal responsibilities and thus strengthen employee loyalty and productivity (Gerhart et al., 2006, 2009).

In addition, Abercromby (2007) posit that long work hours and highly stressful jobs not only hamper employees' ability to harmonize work and family life but also are associated with health risks, such as increased smoking and alcohol consumption, weight gain and depression and has been associated with numerous physical and mental health implications.

Dewaniya for Arabians

Islam places tremendous emphasis on the establishment, maintenance, and preservation of strong family ties. It encourages communication, interaction, and interdependence among family members as an essential requirement for a harmonious society (Kuwait Culture, 2007). It considers the family as the basic unit of human society, and it stresses on maintaining the relationships within the family (which includes all relatives, not only direct family members).

In fact, maintaining family ties is an obligation in Islam, and abandoning the family ties is very high on the list of sins (New World Encyclopedia, 2012). Hence, in order to maintain family ties among Arabians, they have to have a one or couple of days break for their Dewaniya (1).

This Dewaniya can be considered as the most discriminating policy within the company because frontline employees are manning the offices while Arabians are having enjoyable work-off. However, frontline employees should understand that Arabians are not doing this just for the sake of recreation or socialization but due to their obedience in Islam traditions and practices. Hence, in this point of view, ADGC management does not mean to put the frontline employees on the disadvantage.

Intrinsic and Extrinsic Satisfaction Level

Figure 8 below shows that, overall, the frontline employees are intrinsically satisfied with a mean of 2.78 and extrinsically dissatisfied with a mean of 2.18, wherein the combined result of the two factors is Overall Satisfied. This is a good sign for the company because they are able to manage their frontline employees satisfied intrinsically.

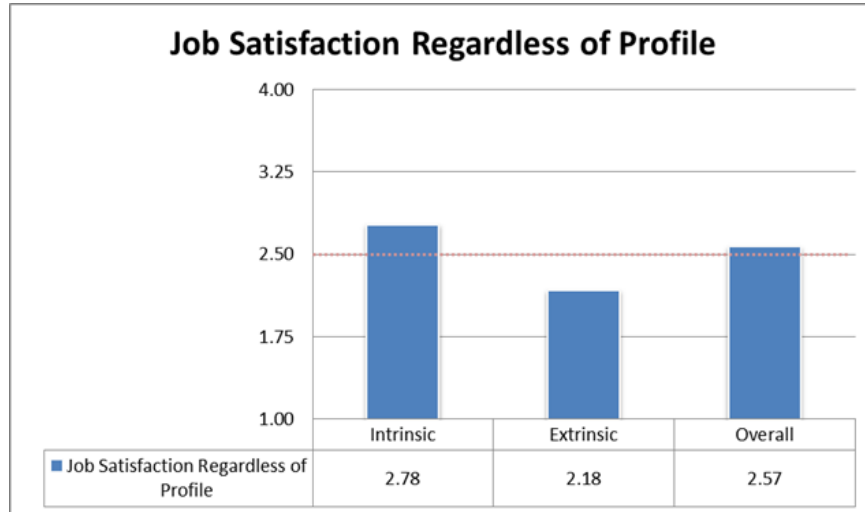


Figure 8. Job satisfaction regardless of profile.

In addition, figure 9 shows that respondents are satisfied with their Compensation with a mean of 2.78 wherein the company is successful in satisfying its employees monetarily. However, the company must be aware that their effort of reinforcing compensation will not make the employee more satisfied since compensation is considered as an extrinsic factor which can never motivate an employee alone (O’Brien, 2003). Hence, balance between the two factors is very important to be observed.

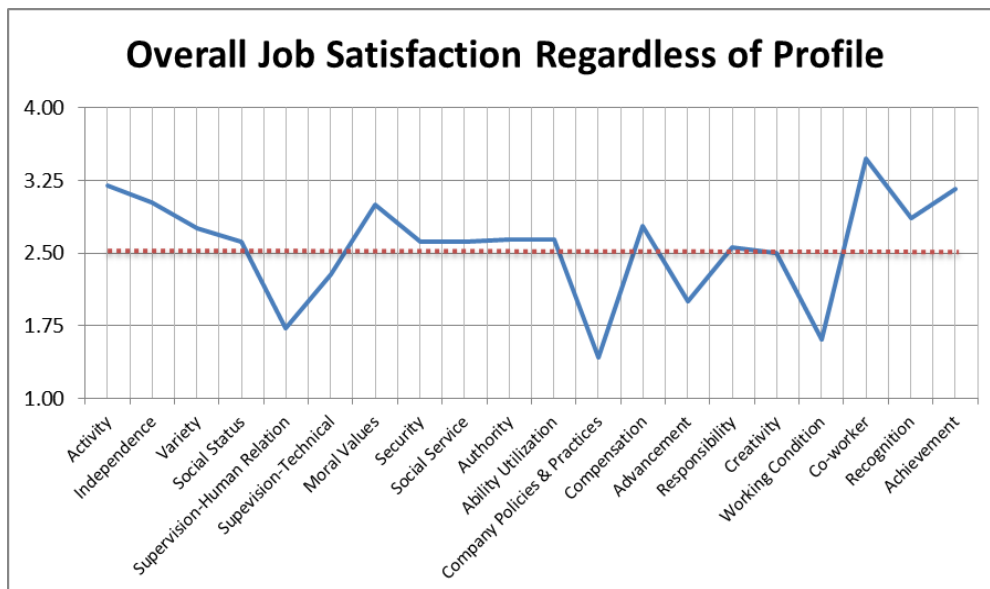


Figure 9. Job satisfaction regardless of profile.

On the other hand, the result showed that frontline employees are dissatisfied to the aspect of Advancement with a mean of 2.00, and very dissatisfied to the aspects of Supervision-Human Relation, Company Policies & Practices, and Working Condition with the mean of 1.69, 1.42, and 1.61 respectively.

In connection, even if Supervision-Human Relations, Supervision Technical, Company Policies, and Working Conditions are factors that can never become the source of job satisfaction, ADGC must still focus on these areas. Lessening the dissatisfaction level on these extrinsic factors will significantly help increase the overall job satisfaction level of the employees.

This is important most especially that dissatisfied employee may end up withdrawing from the job may it be behavior change, physical withdrawal, or psychological withdrawal (Moorhead & Griffin, 2012); it will still impact the company's productivity as a whole.

Although in Kuwait, physical withdrawal is almost impossible due to the existing Kafael System. Hence, repatriation will be the last resort.

Job Satisfaction Level According To Gender

Figure 10 below tells that males and females have the same feeling about their current job which has a job satisfaction level of Satisfied. Although, males have higher level of job satisfaction level with a mean of 2.60 and females have only a mean of 2.54. Higher level of job satisfaction of male frontline employees is due to their higher feeling of Authority to their current job with a mean of 2.71 as compared to the female counterparts with mean of 2.53. Dabbous & El Asri (2003) mentioned that Arabian women in the Arab world are still seen as lower, debased creatures and considered as a liability that definitely could make the feeling of dissatisfaction.

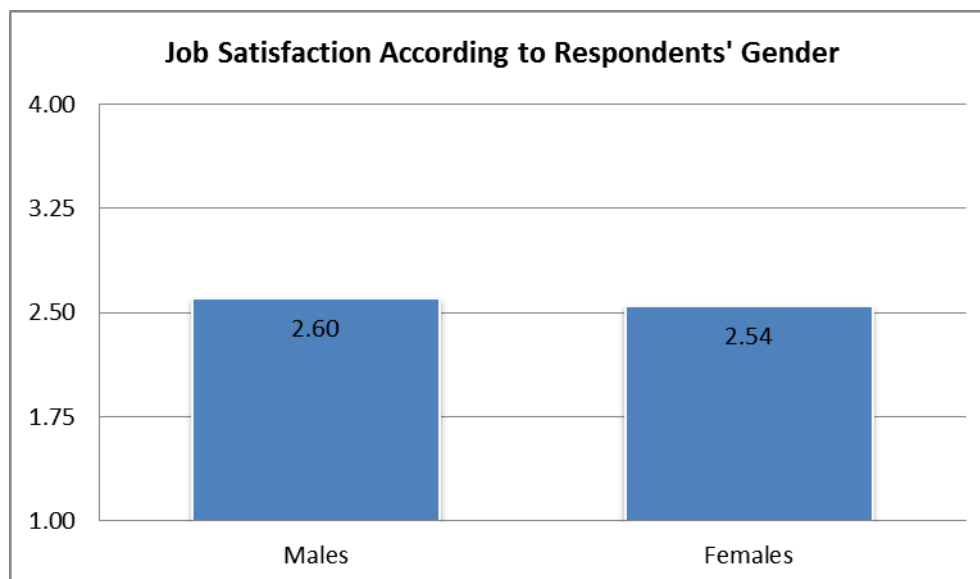


Figure 10. Job satisfaction according to respondents' gender.

Woman in the Arab World

Traditionally, Kuwaiti Islamic values dictate the State of Kuwait that Kuwaiti women are regarded as mothers and housewives only, thus, disabled them to play a role in the development of the society which is very much different to the status afforded to Kuwaiti men (Countries and Cultures: Culture of Kuwait, 2007).

In this case, how much more the discrimination those ADGC female employees are experiencing since they are non-Arabians in the Arab World. Thus, ADGC female frontline employees might belong to the utmost bottom of the Kuwait Social Stratification.

Social Status

Even if the ADGC male frontline employees have higher level of Authority, they still did not gain equally high level of satisfaction as to Social Status in the company. Figure 11 show that both genders share the same feelings with regards to Social Status with the mean of 2.62 for males and 2.60 for females. Thus, both genders are still located at the 5th level of the Kuwait Social Stratification.

Moreover, due to the existence of the Kuwait Social Stratification, both genders are far from satisfied in terms of Supervision-Human Relation, Company Policies & Practices, and Working Condition which are all extrinsic factors hence main sources of dissatisfaction. Since they are not Arabians, they are located at the bottom of the strata and considered as Kafirs. Thus, they cannot do anything for them to be heard in the company and they only right is to be preyed upon for the benefit of the company.

In addition, International Schools Review (2009) said in their article entitled “Culture Shock Kuwait” that “...if you go to Kuwait you will be exposed to a myriad of things that may upset you and you have no power to change or help”.

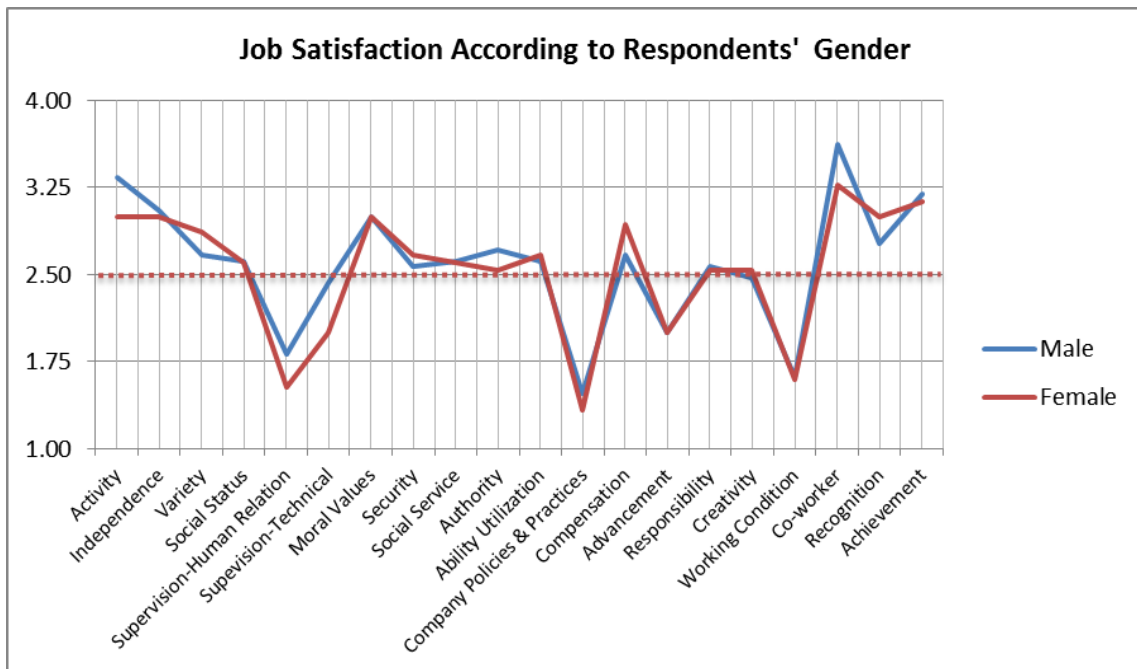


Figure 11. Job satisfaction according to respondent's gender.

Job Satisfaction Level According to Length of Service

Figure 12 shows that frontline employees with 1-3 years of service with the company are dissatisfied which in opposite way the rest are all feeling satisfied with their current job. It can be observed on the graph that as the frontline employees grow with the company, their level of job satisfaction grow as well.

This is because the longer the service of the employee with the company the better the employee understands the company's culture and values. Hence, long-time frontline employees are adapted already with the culture and values and are flexible to changes.

Scott et al., (2005) said that employees begin with high morale at the start with the company, which drops during the first year and remains low for a number of years. Then as length of service increases, job satisfaction levels tend to rise (103), hence the results in figure 12 clearly conveys.

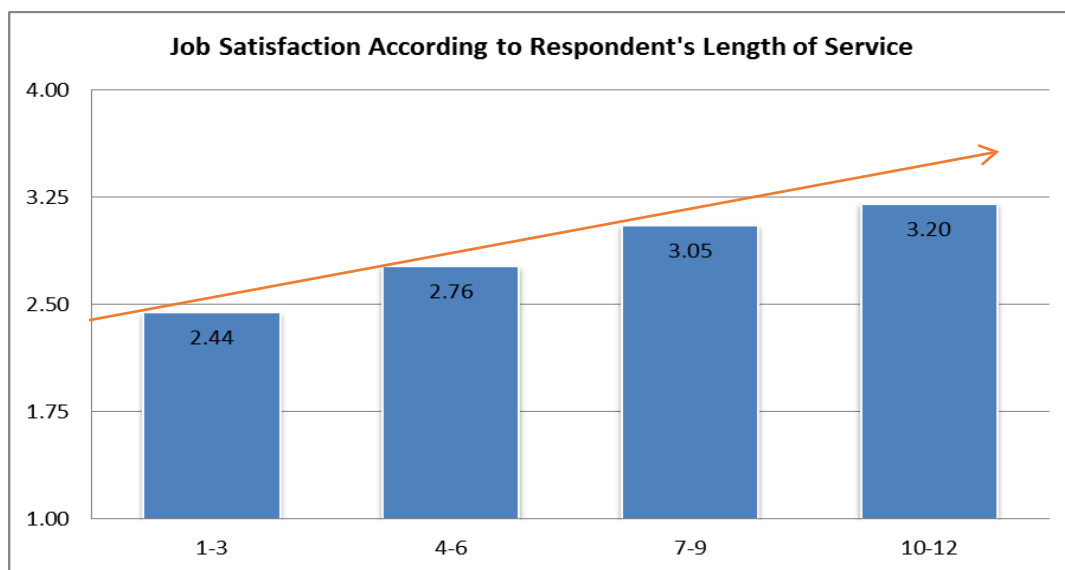


Figure 12. Job satisfaction according to respondent's length of service.

Moreover, figure 13 shows that, frontline employees regardless of their years of service are not satisfied with the aspects of Supervision-Human Relation, Company Policy & Practices, Advancement, and Working Condition except for the frontline employees with 10-12 years of service which is satisfied with the Company Policy & Practices.

Although, it should be noted that employees with 10-12 years of service with the company, Company Policy & Practices, Advancement, and Working Condition are still fall below the satisfied level (2.50).

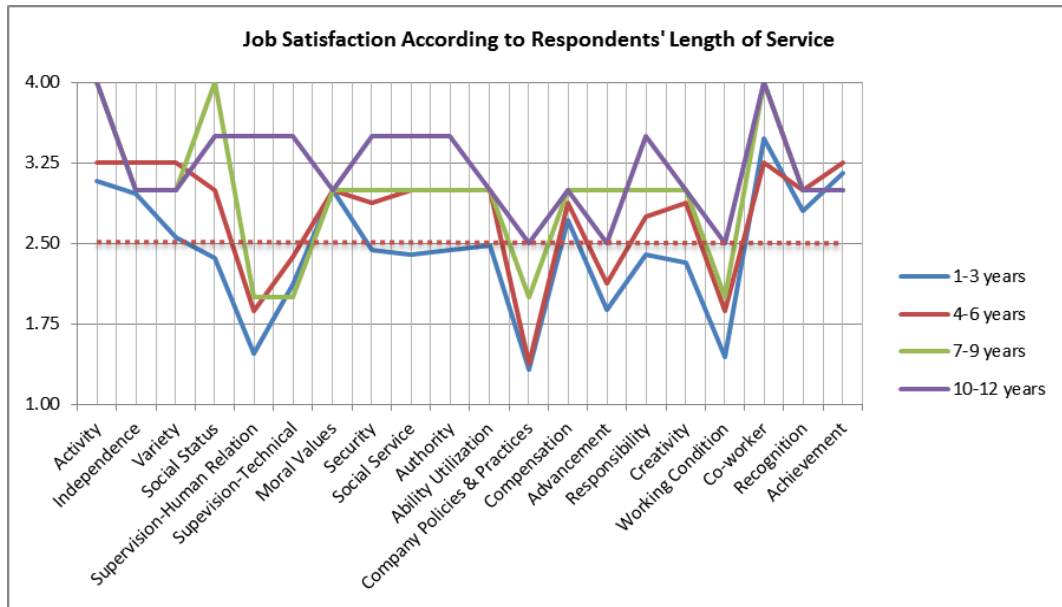


Figure 13. Job satisfaction according to respondents' length of service.

This shows that their length of service with the company does not guarantee them a career development and advancement and did not excuse them from discriminations. Thus, they still hold the position of frontline employees which is solely due to their non-Arabian status and because the Arab world follows a strict caste system that prevents mobility between classes (Arabian Business Etiquette, 2012).

Job Satisfaction Level According to Nationality

Figure 14 below shows that among frontline employees, Filipinos have the highest level of job satisfaction with a recorded mean of 2.82 which is far from the levels of the other nationalities. In addition, based on the results, it is evident that Ethiopians and Sri Lankans are both dissatisfied with their current job with the mean of 2.29 and 2.45 respectively.

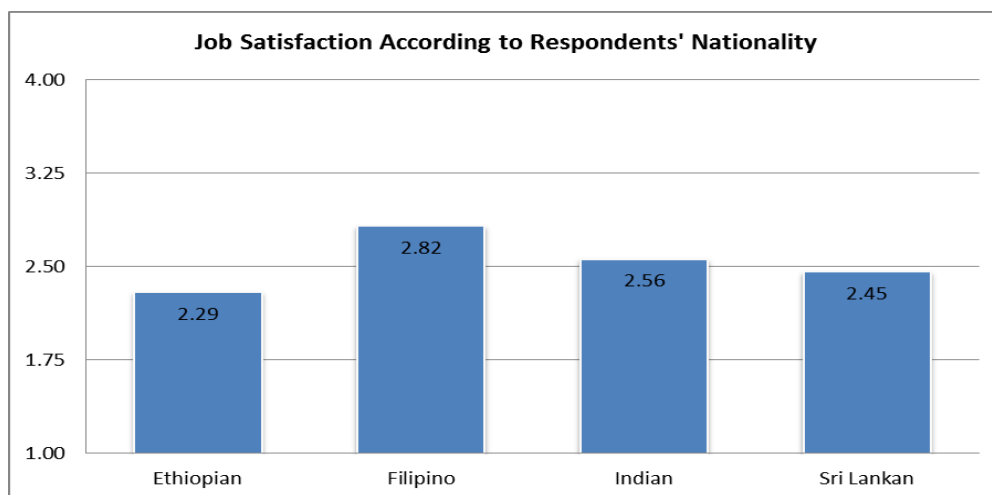


Figure 14. Job satisfaction according to respondents' nationality.

In addition, figure 15 shows that frontline employees share almost the same feelings with regard to Compensation which are all satisfied, and Supervision-Human Relation, Company Policies & Practices, Advancement, and Working Condition which all did not meet the satisfaction level.

Although, Filipino frontline employees recorded a remarkable mean of 3.25 in the aspect of Social Status and Authority which made Filipino employees far different from the others. Even though foreigners such as Filipinos only belong to the bottom part of the Kuwait Social Stratification, Filipino employees still gained enough respect and recognition not only from the co-workers but also from the Arabians.

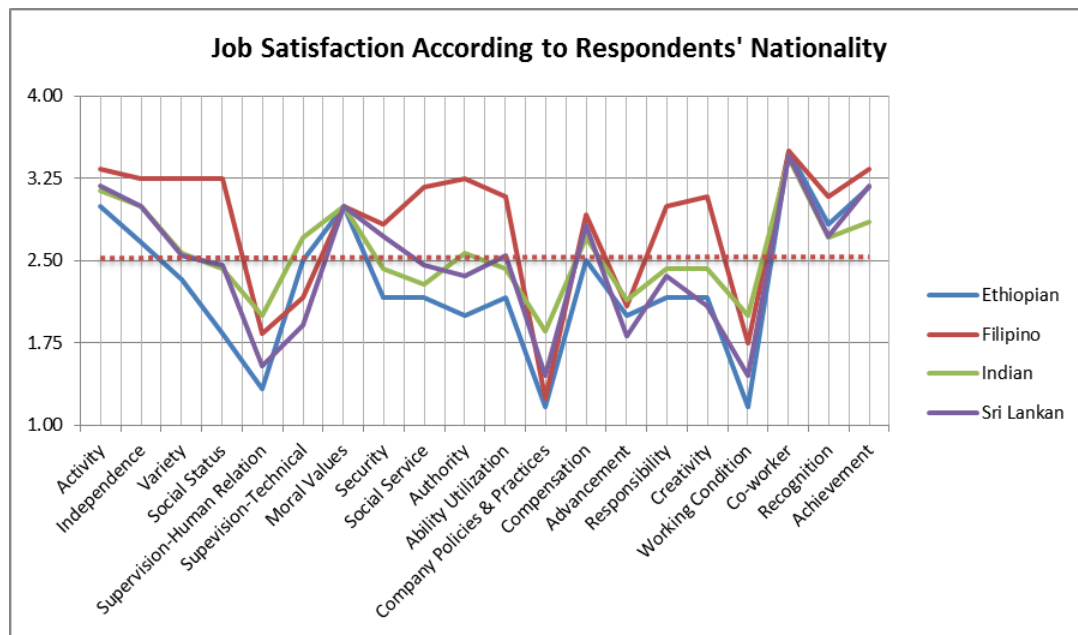


Figure 15. Job satisfaction according to respondents' nationality.

In addition, the General Manager of ADGC, Mr. Khalid Saad Mutlaq Al Dakhnan Al Azmi said during the Philippine Independence Day in ADGC office (the only non-Arab secular event that is allowed to celebrate in the office) that Filipinos are intelligent, smart, honest, hardworking, and respectful (Personal conversation, June 12, 2010).

Discrimination and Racism

On the other hand, based on figure 15, it is evident that Ethiopians and Sri Lankans are both very dissatisfied with the aspect of Supervision-Human Relation, Company Policies & Practices, and Working Conditions. Thus, aforesaid nationalities are both very dissatisfied the way the boss treats them, the way company policies are put into practice, and the company's working schedules and conditions.

Abubeker Siraj Hamid, an Ethiopian, a former frontline employee of ADGC, once said that one of the Arabians ordered him to make a tea and clean his office which is definitely out of Abubeker's job description. However, Abubeker does not have any choice but to follow otherwise he will be in big trouble (Personal Conversation, April 9, 2010).

Al Zougbi (2003) said that racism is also central to the Ethiopian experience and associations between skin-color and servitude have long been embedded in Arab culture. This indicates the presence of black slavery in the past and the association of servitude with black-skinned people is carried through to this day (30).

In addition, Perry (2012) of the Lebanese American University, Qur'an has long been justified and permitted the enslavement of Africans and other dark-skinned foreigners and remained for the most part and restricted to the periphery of Arab society, thus through the strict observance of the Kuwait Social Stratification.

According to Dilshan Mahesh De Silva, a Sri Lankan frontline employee of ADGC, the Syrian representative that interviewed him in Sri Lanka promised him a safe work in Kuwait. However, he needs to travel carrying Article/Visa 14 which is intended for a tour. Apparently, when he arrived in Kuwait, the company registered him together with new Ethiopian staff under Article/Visa 20 which is intended for a household worker. Apparently, in Kuwait workers who hold Article/Visa 20 have too many restrictions. Thus, his job security is at stake because if the authority caught him working at the place where he should not be, he will be blacklisted then deported (Personal conversation, December 27, 2010).

Moreover, this visible symbol of division has not been eliminated by the globalization process, yet must be noted that ethnic and occupational division continue as they were inherited by the newly-formed Arab and practice the modern slavery in the Arab world(1)which known as the Kafael System of Kuwait.

Kafeel/Sponsorship System

Whitson (2010) said that Kuwait's current sponsorship system ties a migrant worker's immigration status to an individual employer, or sponsor, without whose consent the worker cannot transfer employment. "Absconding" from the workplace is a criminal offense, even if a worker has left because of abuse. This system gives employers unchecked leverage and control over workers, who remain completely dependent upon the sponsoring employer for their livelihood.

Although, Al Watan (2010) mentioned that several members of the international media have expressed optimism over the announcement by Minister of Social Affairs and Labor Mohammed Al-Ifasi that his ministry would cancel the Kafael/Sponsorship System by February 2011 as a gift to expatriates to mark the anniversary of the country's liberation from the 1990 Iraqi occupation. However, Napoleon Rodriguez, an ADGC frontline employee said that until today Kafael System is still being practiced across Kuwait and is impossible to be scraped (Personal Conversation, May 27, 2012).

According to Jamal Hassan, a Global Business Network Manager, working in Kuwait is precisely different compared to other gulf countries such as United Arab Emirates and Qatar in terms of pay and opportunities to grow economically and professionally (Personal conversation, June 10, 2011). In addition, Visit Kuwait (2012) posted that, "Kuwait is not an attraction for ambitious workers who are career-oriented. For instance, people from Dubai don't come to Kuwait... coupled with restrictions on working visas, low salaries, un-friendly business environment are a few reasons that deter people from coming to Kuwait".

Although, according to the United Nation's 2011 Human Development Report which was published in Harvard Business Review entitled "The Economics of Well-Being", Kuwait is top six of the top ten countries by income (Fox, 2012), which one way or another rationalizes that the State of Kuwait is still one of the potential destinations to for working abroad despite the negative issues attached with the country.

IV. CONCLUSION

This is geared to describe the job satisfaction level of Al Dakhnan Group of Companies frontline employees. Through the aid of the Minnesota Satisfaction Questionnaire–Short Form, the researcher established the answers to the research questions. Hence, remarkable results have appeared.

Based on the data gathered, the researcher therefore concludes that Al Dakhnan Group of Companies frontline employees are generally satisfied with their current job, thus the company is still effective in

satisfying and managing its diversified workforce. In addition, the employees are intrinsically satisfied and extrinsically dissatisfied; hence, this balanced result is identical to the principles of Herzberg's Two-Factor Theory that satisfaction and dissatisfaction stem from different sources.

Remarkably, aside from the monetary satisfaction, the researcher found that ADGC frontline employees place also a great deal on how they are being treated in the company as non-Arab employees and how policies are being practiced in the company. Thus, religion, tradition, culture, and values play a big part in creating and maintaining satisfied frontline employees.

V. RECOMMENDATIONS

Drawing from the conclusions that the researcher arrived at, the following recommendations are forwarded:

First, Al Dakhnan Group of Companies' Managing Director should ensure that non-Arabian employees particularly the frontline employees are aware of Islam as a religion, law, and way of living. The awareness of the frontline employees would break the notion of discrimination and one-sidedness of the company since implementation of religion and race-based policies are not meant to oppress the bottom level of the Kuwait Social Strata but out of obedience to Islamic Law. The company should conduct seminars that could immerse the frontline employees to the culture. In this case, complaints will be lessened and harmonious relationship will be fostered.

Second, ADGC management should have regular meetings together with the representative of each nationality wherein employees' performance will be evaluated and current problems and possible solutions on operational procedures will be discussed. Through this, the company could establish standard company policies which could break the walls between races. Thus, would be beneficial for the company by having satisfied and productive frontline employees.

Third, ADGC management should focus and enhance also the other extrinsic factors rather focusing solely in motivating the frontline employees monetarily. It must be noted that the employees have other needs that must be satisfied aside from money. The company may come up with a Team Building Event at least twice a year or making the frontline employees involved to Dewaniyas even as an audience. In this case, the employees will have a new mindset on how the company most particularly the boss treats them as a human being.

Fourth, the frontline employees should understand and internalize why and how the company observes the Islamic law and implement such in the office. Through this, the employees will never see the religion and race-based policies unfair and discriminating. Thus, frontline employees can free their minds from thinking that they are just being used solely for the benefit of the stockholders.

Finally, ADGC management should elect or appoint somebody who is knowledgeable and responsible enough to stand as a company Human Resource Manager. Should the Managing Director not see anybody who is qualified for the position, the company can hire if it is necessary. Having such is very important because the Human Resource Manager will handle all the personnel aspects of the company as well as training, paying, and benefits for the employees. In addition, company can manage to have and pioneer an official job performance evaluation and job satisfaction assessment which are both very important in determining the productiveness of the employees and their job satisfaction level. Thus, the company can foresee the warning signs whether the problems are from the management or from the employees.

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INNOVATION FOR SUSTAINABILITY IN THE AUTOMOTIVE INDUSTRY: A CASE OF THE BMW GROUP

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ABSTRACT

In recent year, there has been significant discussion in the business, academic, and popular press about corporate sustainability. This paper reviews the concepts of corporate sustainability, addresses key drivers that force automobile corporations to compete on innovations toward sustainability, and explores the BMW Group, a leading automotive manufacturer, on how it strategically pursues innovation and management of sustainability.

Keywords: Innovation, Sustainability, Automobile Industry

INTRODUCTION

In recent year, there has been significant discussion in the business, academic, and popular press about corporate sustainability. This paper reviews the concepts of corporate sustainability, addresses key drivers that force automobile corporations to compete on innovations toward sustainability, and explores the BMW Group, a leading automotive manufacturer, on how it strategically pursues innovation and management of sustainability.

Sustainability Defined

While corporate sustainability recognizes that corporate growth and profitability are important, it also requires the corporation to pursue societal goals, specifically those relating to sustainable development — environmental protection, social justice and equity, and economic development. A review of the literature suggests that the concept of corporate sustainability borrows elements from several established concepts. One of which is the concept of sustainable development. Sustainable development is a broad, dialectical concept that balances the need for economic growth with environmental protection and social equity. The term was first popularized in 1987, in *Our Common Future*, a book published by the World Commission for Environment and Development (WCED). The WCED described sustainable development as development that meet the needs of present generations without compromising the ability of future generations to meet their needs. As described in the book, it is “a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations.” Sustainable development is a broad concept in that it combines economics, social justice, environmental science and management, business management, politics and law. It is a dialectical concept in that, like justice, democracy, fairness, and other important societal concepts, it defies a concise analytical definition, although one can often point to examples that illustrate its principles.

The contribution of sustainable development to corporate sustainability is twofold (Wilson, 2003). First, it helps set out the areas that companies should focus on: environmental, social, and economic performance. Second, it provides a common societal goal for corporations, governments, and civil society to work toward: ecological, social, and economic sustainability. However, sustainable development by itself does not provide the necessary arguments for why companies in action should look like.

Sustainability as the Key Drivers of Innovation

While many companies are still convinced that the more social-beneficially and environment-friendly they become, the more the effort will erode their competitiveness. They believe it will add to costs and will not deliver immediate financial benefits. However, the quest for sustainability is already

starting to transform the competitive landscape, which will force companies to change the way they think about products, technologies, processes, and business models. Therefore, there are more and more companies starting their journey to join the race to compete through innovation toward sustainability.

Sustainability and Business

For those working in business, sustainability will involve considering the long-term consequences of industry and manufacture. Economic sustainability involves developing long-lasting systems of trade, while ensuring that these systems have a lesser impact on the environment than previous methods. Corporate sustainability, meanwhile, focuses upon the environmental and social impact of business actions.

Sustainability and Investment

One reason for business becoming so interested in sustainability is that good business practices are sought out by investors. Some investors look for a worthy project, so improving sustainability measures can bring them in. Investors may also look at the Life Cycle analysis of a business, which examines the long-term environmental and carbon footprint of a product. Investors can decide not to invest in a company if its carbon dioxide footprint is too large. Companies with proven records in global and local sustainability can make profit through employee productivity, better long-term public following, and investments due to good public reputations.

Sustainability and Competitiveness

In recent years, as the public has become more aware of the pressure on the environment, it has become clear that businesses that practice sustainability strategies are in fact getting greater profits, and creating their own consumer path.

Sustainability regulation can also assist competitiveness in business, as it forces industry to innovate and create new solutions, driving up profits for those companies that provide the best products. Sustainability has also been shown to produce new demands and markets for businesses.

The rise in consumer demand for sustainability improvements has led to businesses that were not previously interested in green issues suddenly improving their sustainability practices. Experts suggest that this is to improve their competitiveness against other companies.

Sustainability and Government Grants

Another reason for improving sustainability is the recent raft of legislation from governments around the world, designed to encourage businesses to reduce their environmental impact. Carbon emissions, water supply, and energy security are now linked with business costs. Government bodies have also become more persistent at prosecuting businesses that pollute water or air.

Sustainability and Business Practice

Sustainability is good for businesses both as a long-term strategy to improve employee confidence, and as a short-term response to government legislation. Businesses responding to demands for clearly visible sustainability practices are also more attractive to the new class of ethical investors, and regain the costs of managing sustainability through government grants and increased sales to green activists and other members of the community. Ethical business practices may also improve competitiveness between businesses, encouraging growth and bigger profits.

THE CHALLENGES OF SUSTAINABILITY IN THE AUTOMOBILE INDUSTRY

Competition in the automotive industry is characterized by overcapacity, high market saturation, high labor and fixed costs, and the need for constant product development and innovation. Due to mergers, very few global players dominate the automotive market, causing major entry barriers. Owing to a high motorization rate in Europe, demand is largely based on replacement. This has led to a dramatically shortened product life cycle and to constantly differentiating brands and models. Slim margins press automakers to pay more attention to after-sales services to improve profitability.

From the environmental point of view, the crucial issue is a relatively long life span of the industry's products. Thus, about 80% of environmental impacts stem from the usage phase of the car. This offers room for improvement, especially in the design phase (using lightweight materials, improving fuel efficiency, inventing new energy sources. Due to the massive use of cars and their shortening life cycle, end-of-life vehicle is also perceived as an important issue. It is now regulated by the EU, but is also recognized as a CSR issue by the producers themselves. As car manufacturing is characterized by long and numerous supply chains, producers' responsibility should be expanded to the whole supply chain.

From the societal point of view, auto manufacturers are engaging in CSR activities concerning end-of-life-vehicles and producers' extended responsibility for their products, green supply chain management, environmental management schemes, and labor codes of conduct. Concerning quality of work, the automotive industry is shaped by conditions typical to a high-skill high-quality sector. Nevertheless, working conditions vary according to the specific production system of a plant, which is largely dominated by its owner. All leading auto manufacturers tend to offer higher autonomy, job satisfaction, job stability, job flexibility, job safety, and training to workers. As a common pattern, a strong focus lies on ergonomics. Social dialogue and worker involvement is increasingly gaining attention due to two factors: First, worker involvement is a necessary factor for innovation and quality, and employees are difficult to replace and therefore valuable to the company. Second, the core workforce in the automotive industry tends to be well organized, which is a threat if social dialogue fails.

The benefits of cars are clear: they provide a door-to-door transportation system, the means to gaining access to life's necessities and employment, and a source of pleasure and social status. However, despite these benefits there are environmental burdens as well: local air pollution, greenhouse gas emissions, road congestion, noise, mortality and morbidity from accidents, and loss of open space to roads, car parks and urban sprawl.

The automobile industry has had few radical changes over the last 30 years. However, these few changes were often remarkable and had a significant impact on practice and academia. The Toyota Production System ("Just in Time") and the modular consortium are important innovations from the production system perspective. Also, the transfer of the assembly plants to developing countries and global outsourcing are evident changes in the industry's business and operations strategy. Nevertheless, these changes have been insufficient to make the sector more sustainable. As evidence of this the automotive industry is still struggling against economic, environmental and social challenges. The many economic challenges currently facing the industry: notably overcapacity; saturated and fragmenting markets; capital intensity; and persistent problems with achieving adequate profitability. Strong dependence on fossil fuels and large consumption of raw material lead the environmental problems. As a result, in a near future, it is expected that the sector will face strong pressures and take initiatives in order to reduce the environmental burdens from car use and its production process.

The major environmental concerns in the 21st century are atmospheric pollution and its consequences for human health, global warming and ozone layer depletion), scarcity of freshwater, raw material and land availability. The impacts on businesses may be enormous as it was announced by the World Resources Institute's report - Tomorrow's Market: Global Trends and Their Implications for Business.

According to the United Nations, the World's population is forecasted to reach 9 billion people in 2050, mainly because of population growth in developing countries. As emerging economies repeat the historical development patterns of the industrialized countries, rising car ownership and air travel will have major impacts on material consumption, land use, pollution, greenhouse gas emissions, and petroleum demand.

For the automotive sector, atmospheric pollution can result from plant emissions, but mainly on car use because of engine emissions. Depending on the rate of consumption of developed and emerging economies, raw material availability and energy security will strongly be affected. “The growth in car production and usage has been a critical factor in the growth of consumption of numerous resources, especially metals. Given an estimate that China will produce over 6 million vehicle units in 2005, it is expected that there will be significant increases in imports of metals. The rapid and continuous growth of China’s vehicle population has also brought great challenges to China’s energy resource security.” In fact, the production of vehicles in China reached more than 5 million in 2005 and more than 7 million in 2006 and crude oil prices hits US\$ 100-a-barrel.

Regarding the relationship between the automobile industry and land use, two major consequences arise: traffic control and final disposal of end-of-life vehicles.

Space for roads and car parks are needed to avoid congestion and improve mobility. As a response to the new environmental concerns, traffic control through alternative types of collective transportation and stricter regulation on car use in urban areas might affect customers and consumers’ behavior, therefore, reducing the opportunities for the automobile manufacturers of making profits. Moreover, traffic control will also take place as an attempt of avoiding car accidents that increasingly occur in urban centers and on the motorways.

Last, but not least, companies will need to include product recovery as a new activity in their operations function. As land becomes scarce and the vehicle fleets increases, availability of landfill sites will decrease and, as a result, the costs of final disposal for end-of-life vehicles will probably increase.

A common fact among global companies is the transfer of their manufacturing plants from developed to developing countries in order to access new markets, low labor costs, and also a less strict environmental regulation regime. However, as soon as the new destination meets the basic needs of its society, environmental protection becomes a concern; hence, lenient regulation gets stricter. Thus, in the particular case of the automobile industry, new destinations like China and India are already suffering pressure to adopt the Kyoto Protocol decisions and conserve water, therefore using cleaner processes, by 2012. This makes the threat impact on the industry in just 5 years’ time. What is more, the likelihood of adopting such measures is high. However, behind the consequences of this threat there are opportunities for cost reduction due to the fact that pollution means waste.

Regarding raw material shortages, new technology, car designs and recycling processes make this a medium-term threat. Also, the use and discovery of new materials such as aluminium, magnesium, plastics and renewable fibers reduce the likelihood of a shortage of materials. The pressures for waste reduction will positively impact the availability of raw materials. In summary, the severity of this threat might be low in the industry.

A significant threat for the sector may be energy intensity and oil dependency. People that are leaving the line of poverty will start consuming product and services, i.e., energy. The automotive industry will compete among other priorities of World society for the use of energy when the World population will probably be 8 billion people in 2025. Without any radical change on the energy matrix of the automotive sector, oil demand is very likely to exceed supply. Although, technologies related to the use of biofuels, hydrogen and fuel-cells are already being developed; external constraints such as distribution and storage of energy may require radical changes for car automakers in the design of their product and processes.

Car use is by far receiving most attention due to its large consumption of fossil fuels, and therefore emission of greenhouse gases. In fact, the current internal combustion engines have low efficiency and are the target of many policies, e.g., California zero-emission fleet and the Brussels’ strategy to turn Europe into a low-carbon economy. For example, the second plans to limit the carbon dioxide emissions to 130 grams per kilometer by 2012. Those policies are already on course and as the

average car emissions in Europe are still higher than 160 grams per kilometer, engine emissions control is a very likely and severe threat for the automobile industry. Green car production is at its early stages to create an environmentally-friendly market and some researchers have found that environmental issues still play a minimal role for customers.

Congestion taxes are also among of the proposed solutions to minimize air pollution in urban centers and stimulate citizens to use public transportation. These measures have already been taken in some cities like London, and similar programs are used in Singapore, Sao Paulo and Mexico City. The generalization of this method is still controversial and may be applied only on the most densely populated cities. Moreover, automobile culture is very strong, and mainly, as the car ownership is associated with status besides its purpose of personal mobility, the impact on sales may be low and customers will continue to buy cars for travel and other reasons beyond daily needs such as travelling to work.

Landfill shortages will create pressures on car assemblers to take responsibility for their products after use. Final disposal of scrapped vehicles will become an evident problem as the fleet increases and, what is more, a costlier activity as landfill sites will become scarcer. The recovery of end-of-life cars will require new skills and competences from companies, not only from collecting the scrap, but also to take advantage of valuable components from the car. In addition, new business models are already in course to transfer ownership, and hence responsibility, from the customer to the manufacturer. Although implementation of such policies worldwide is probably not happening in the next 5 years, this is a likely threat with a high impact due to its complexity for industry to collect, separate, recycle and find a correct destination for end-of-life cars.

It might become clear that the automobile companies would need radical changes in their production systems to cope with those environmental threats; nonetheless, because carmakers are locked into three technological paradigms (all-steel car bodies, internal combustion engines, and multi-purpose vehicles), which tends to favor incremental improvements. In addition, the existing economic and political interdependency between this industry and other sectors (e.g. oil industry) makes radical changes towards higher levels of environmental performance more difficult due to its complexity and extension.

Ultimately, the proposed scenarios here give a general perspective on how automakers could be harmed due to environmental regulation, lack of competitiveness, change of social culture, and scarcity of production inputs. Indeed, different companies can perceive differently each threat, and also, have different capabilities and competences to respond to their implications.

The challenge and opportunity of sustainable mobility is that it represents a major shift in vision and action, on multiple levels, that impacts everything from what and how products are created, to which products are chosen for creation.

A CASE STUDY OF THE BMW GROUP ON SUSTAINABLE STRATEGY AND INNOVATION

Company Overview and Business Model

Bayerische Motoren Werke AG, usually known under its abbreviation BMW, is a German luxury vehicle, motorcycle, and engine manufacturing company founded in 1916. The BMW Group has its headquarters in Munich, Bavaria, Germany. It has been founded in 1916 as Bayerische Flugzeugwerke AG (BFW). It became Bayerische Motoren Werke Aktiengesellschaft (BMW AG) in 1918.

The BMW Group is one of the most successful manufacturers of cars and motorcycles in the world and its BMW, MINI and Rolls-Royce premium brands are three of the strongest in the automotive industry today. In addition to its car brands, the BMW Group also has a strong market position in the

motorcycle industry and is a successful financial services provider. In recent years, the company has also become one of the leading providers of premium services for individual mobility.

The BMW Group is an international company, represented in over 150 countries around the globe. At the end of the year 2015 it employed a total of 122,244 people (2014: 116,324 employees). The company has a large research and innovation network, with 13 locations in five countries around the world. Currently, its production network comprises 30 locations in 14 countries. The worldwide vehicle sales network is currently made up of around 3,310 BMW, 1,550 MINI and 140 Rolls-Royce car dealerships. The company also has around 1,150 BMW Motorcycle dealerships worldwide.

With its brands, the BMW Group offers its customers a broad spectrum of individual mobility in the premium segment. Furthermore, with the BMW i brand, the BMW Group has continued to expand the meaning of the term premium. BMW i is even more strongly characterized by the idea of sustainability; it stands for vehicles that lead the way in terms of electric drive, revolutionary lightweight construction, exceptional design and mobility services that have been designed from the ground up.

BMW Motorcycles also focuses on the premium segment and offers a wide range of products. Innovative technologies and a large number of driving apparel options contribute towards increasing customer safety and comfort.

The financial services segment is a partner to the sales organization, and is represented in over 50 countries worldwide. The largest business area in the financial services segment is loan financing and leasing of BMW brand cars and motorcycles for private customers. Under the brand name Alphabet, the BMW Group has an international multi-brand vehicle fleet business that offers loans to large customers to finance their car fleets. It also provides comprehensive management of company vehicle fleets in 18 countries. This also includes full-service solutions such as the corporate car-sharing program AlphaCity, as well as AlphaElectric, a comprehensive e-mobility solution.

Thinking for the long term and responsible action have always been the basis for BMW business success. In addition to business aspects, other integral parts of the BMW Group's strategy are environmental and social criteria along the entire value chain, product responsibility in all areas as well as a clear commitment to resource efficiency.

The BMW Group's Vision and Strategy

Vision

The BMW Group has set its vision to be the world's most successful and sustainable premium provider of individual mobility. BMW sees global sustainability challenges as an opportunity to develop innovative products and services. In this way, sustainability makes a long-term contribution to the business success of the BMW Group. BMW innovations are not developed to be of benefit to its customers only – BMW also wants them to have a positive impact on society and the environment. BMW wants to achieve a clear competitive advantage with efficient and resource-friendly production processes and state-of-the-art solutions for sustainable individual mobility for its customers.

Key Strategic Issues

In order to identify which topics may bring opportunities and risks to BMW business today or in the future, and to focus our activities accordingly, BMW uses an "environmental radar" to scan external trends on an ongoing basis. In addition, it carries out a regular materiality process. To do this, BMW analyzes the importance of current sustainability topics, both from the perspective of different stakeholder groups as well as that of the company. Figure 1 shows the result of its materiality analysis 2015.

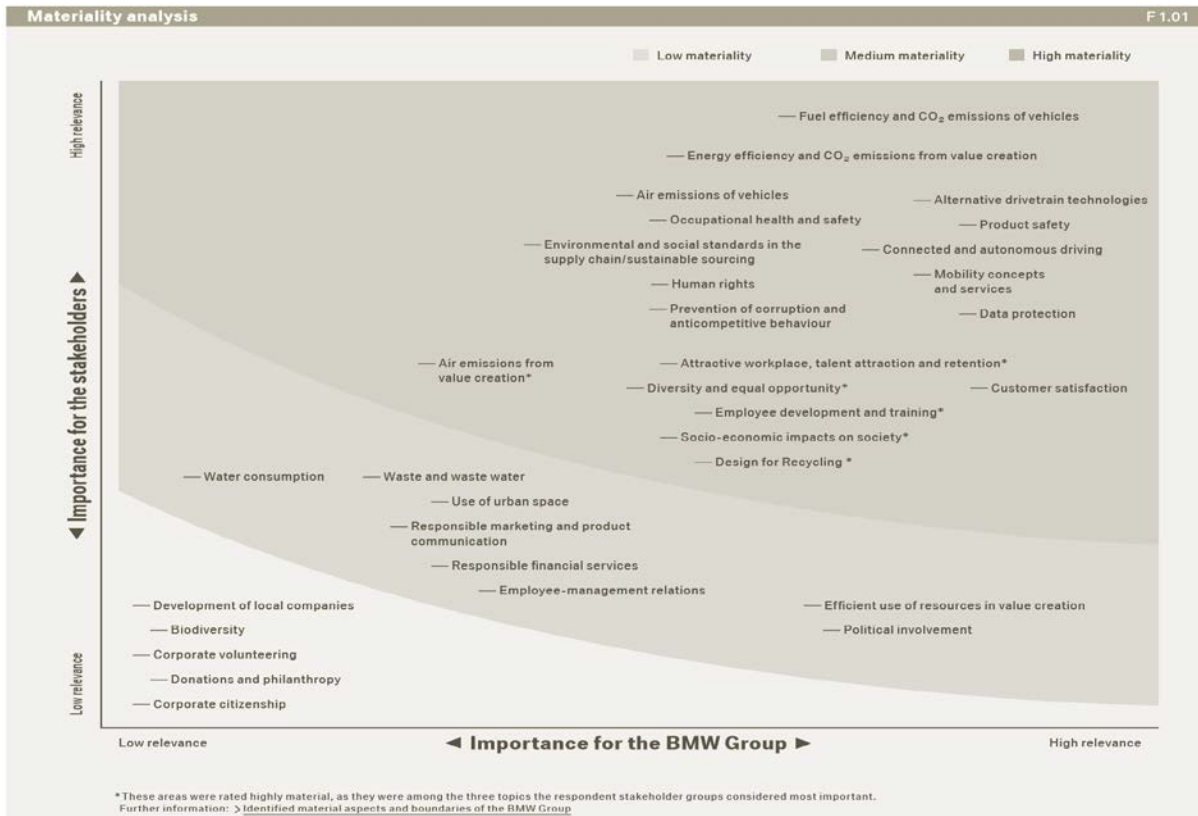


Figure 1. BMW materiality analysis matrix 2015. Adapted from *BMW sustainable value report 2015*.

Long-term Sustainability Goals

The BMW Group has set itself ten strategic sustainability goals running through to 2020. The goals focus on three areas: products and services, production and value creation, and employees and society. Figure 2 shows the ten long-term sustainability goals. With its long-term sustainability goals BMW Group is fulfilling its vision of being the most successful and sustainable premium supplier of individual mobility. In its opinion, sustainable operations contribute towards higher profits.

Systematic Integration of Sustainability into the Business Model

The BMW Group systematically integrates sustainability into its business model and along the entire product life cycle and value chain. The key strategic and sustainable issues are brought into considerations and systematically integrated into the BMW strategy. The following sections shows as examples on how sustainability contributes towards the business success of the BMW Group.

– Achieving a competitive edge through the Efficient Dynamics strategy

Strategic corporate planning leads to long-term success. The competitive edge achieved based on the Efficient Dynamics development strategy, which was launched in the year 2000, is one of the reasons why in 2015 the BMW Group had its sixth consecutive record year.



Figure 2. BMW long-term sustainability goals. Adapted from *BMW sustainable value report 2015*.

– Increase revenues through innovative products and mobility services

Investments in innovative mobility concepts made a considerable contribution towards the company’s business success in 2015. One indicator that this is the case is that 24,057 BMW i3s and 5,456 BMW i8s were sold in the year under report. At the end of 2015, just under 580,000 customers were registered with BMW car-sharing service DriveNow (2014: over 390,000), an increase of around 50%. With these products and solutions, the BMW Group also helps its fleet customers achieve their CO₂ targets.

– Reducing costs through resource efficiency

Efficient use of resources reduces risks that can be generated by availability bottlenecks and fluctuations in price. In addition, it makes a direct contribution towards the result by reducing costs, while at the same time being good for the environment. Between 2006 and 2015, the BMW Group was able to significantly reduce energy and water consumption, waste and VOC emissions per vehicle produced in the BMW Group’s worldwide production network. As a result, it achieved cost savings of €8.2 million in 2015.

– Remaining competitive through sustainable HR policies

In 2015, the BMW Group was able to further consolidate its position as one of the most attractive employers worldwide. Its leading role in the area of sustainability ensures that its employees identify with and are satisfied with the company and its products. The resulting low attrition rate enables us to keep HR recruitment costs low. In addition, it is our experience that a satisfied workforce leads to higher levels of productivity.

– Savings through Ideas Management

The Ideas Management system at the BMW Group enables all employees to play a part in change within the company by contributing their ideas. The ideas submitted result in improvements to the products and processes as well as cost savings. In 2015, around 4,900 ideas were implemented, leading to €17.5 million in savings. In addition, Ideas Management improves our competitiveness by,

on the one hand, reinforcing loyalty to the company and, on the other, fostering motivation as well as entrepreneurial thinking and action.

– Fostering innovation by involving employees

The “Innovationswerk” is the BMW Group’s internal consulting company for user-focused innovations. The teams help employees to understand future requirements and to generate innovative products and services that users will love. Special facilities at the research and innovation site in Garching, Germany have been set up for work on innovation projects. These allow the project teams to act with empathy and focus in their research work and to optimally apply the tools of design thinking, the lead/extreme user method and strategic consulting.

Systematically Integration of Sustainability into the Entire Product Life Cycle and Value Chain

A large part of the environmental and social impact caused by a vehicle throughout its life cycle is determined during the initial development stage. Some of the main influencing factors are material selection, production technologies, supplier selection, engine type, as well as the recyclability of the vehicle’s components. Challenging sustainability goals are therefore just as much part of the development process of the vehicle as, for example, cost or weight criteria. The basis for this is holistic accounting, which evaluates the impact of our products along the entire life cycle in terms of environmental, economic and social criteria.

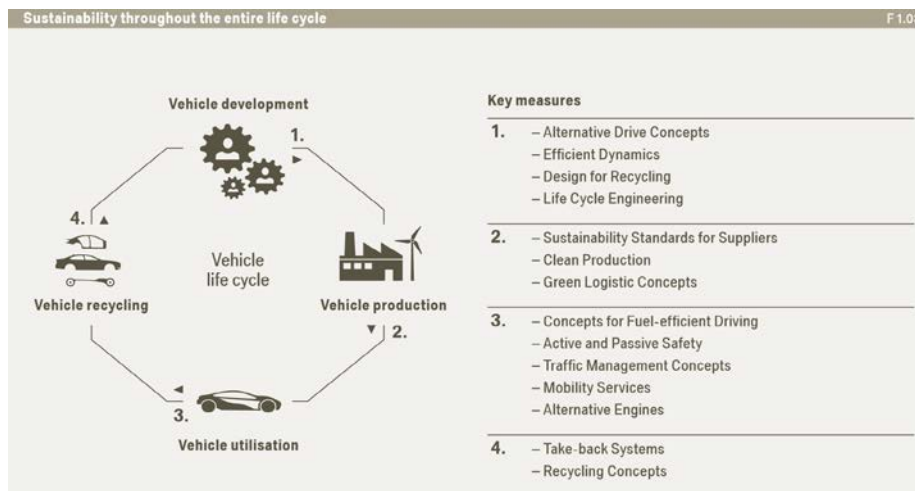


Figure 3. Sustainability throughout the entire life cycle. Adapted from *BMW sustainable value report 2015*.

Figure 3 depicts sustainability throughout the product life cycle. The BMW Group uses Life Cycle Engineering to increasingly integrate environmental aspects into the design and development of its products. BMW aims to achieve a substantial improvement from one vehicle generation to the next. It manages the implementation of the goals and evaluation of progress by applying the Life Cycle Assessment in accordance with ISO 14040/44. The latest example of this is the new BMW 7 Series. Systematic optimization of the drivetrain as well as more efficient use of resources in materials and production led to a reduction of 25 % in greenhouse gas potential (measured in CO₂ equivalents) throughout the entire life cycle of this vehicle, compared to the previous model.

In line with its principle of Design for Recycling, BMW creates its vehicles in such a way that their components can largely be reused or recycled efficiently throughout the life cycle.

Figure 4 shows how the BMW Group systematically integrate sustainability along the entire value chain.

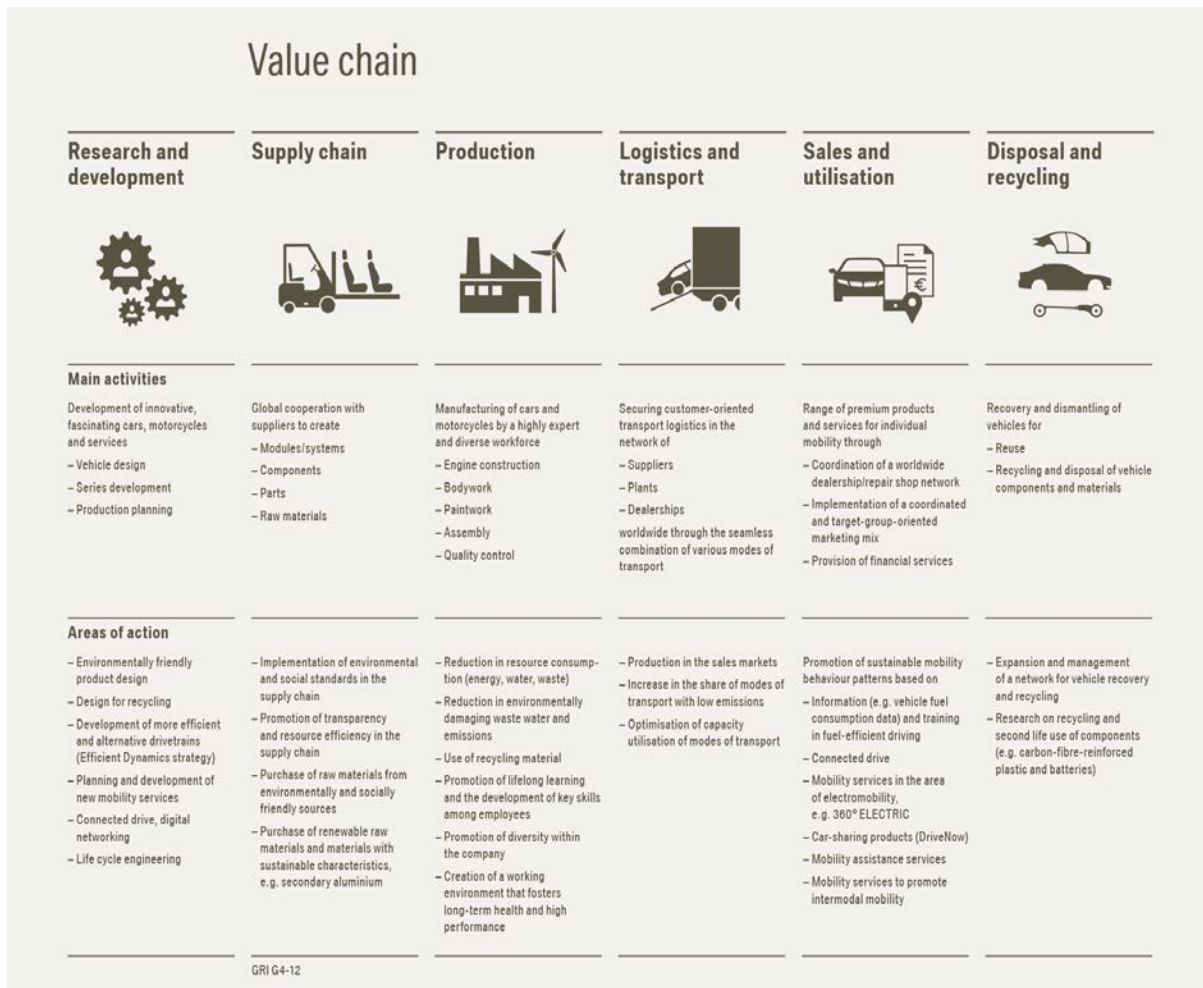


Figure 4. Sustainability throughout the entire value chain. Adapted from *BMW sustainable value report 2015*.

Managing Sustainability

The BMW Group manages its business in accordance with responsible corporate governance principles geared to long-term value creation in all areas of the company. The Board of Management governs the enterprise under its own responsibility, acting in the interests of the BMW Group with the aim of achieving sustainable growth in value. It thus determines the strategic orientation of the enterprise and ensures its implementation. The Board of Management is furthermore responsible for compliance with all provisions of the law and internal regulations as well as for adequate risk management and risk controlling. The Supervisory Board advises and supervises the Board of Management in conducting its duties.

At the BMW Group, sustainability is a component of its corporate strategy. For this reason, its Sustainability and Environmental Protection department has been directly incorporated into its Corporate Planning and Product Strategy unit since 2007, under the mandate of the Chairman of the Board. This unit is responsible for the sustainability strategy and sustainability management worldwide.

Figure 5 presents the organization of sustainability in the BMW Group. The Sustainability Board makes decisions on the long-term alignment of the sustainability-related areas of action. The entire Board of Management is represented on the Sustainability Board, along with the heads of Sustainability and Environmental Protection and of Corporate Communications. The Sustainability Board convenes twice a year to assess the company's progress on economic, environmental and social

issues. In particular, it determines the degree to which sustainability principles have been integrated into the various departments. The Supervisory Board in turn requests progress reports from the Board of Management.



Figure 5. Organization of sustainability in the BMW group. Adapted from *BMW sustainable value report 2015*.

For example, the Supervisory Board has established the Board of Management’s obligation to report on the subject of diversity. GRI G4-44 The Sustainability Circle, which comprises department heads from all divisions, prepares decisions for presentation to the Sustainability Board.

Rewarding Sustainable Business Success

The Supervisory Board decides on the level of compensation received by members of the Board of Management, orienting its decisions on the sustainable development of the BMW Group. Bonuses are also based in part on personal performance, evaluated primarily according to qualitative criteria. These criteria include ecological innovation (e.g. reduction of carbon emissions), customer focus, leadership accomplishments and the ability to lead change processes.

Summary and Conclusion

The business success of the BMW Group is built upon innovations on sustainable development that balances three objective dimensions – economic, social, and environment. The BMW Group systematically integrates sustainability into its business strategy, business model, and along the entire product life cycle and value chain contributing to its business success.

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The BMW Group Sustainable Value Report 2015

INTERNAL COMMUNICATIONS AND EMPLOYEE ENGAGEMENT IN VIETNAMESE MEDIA ORGANIZATIONS

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ABSTRACT

In the new era of technology, media organizations have been experiencing an extreme influence from the existence of the Internet and are bearing a highly competitive scenario. Developing a proficient workforce is ultimately important to take the organizations to greater heights. The scope of the study is the impact of internal communication at organizational level on facilitating employee engagement is measured in the Vietnamese media organizations. The data was collected from 200 staffs in this sector. This study has a practical implication for the media sector at large and has revealed a connection between internal organizational communication and employee engagement. It has unraveled the dimensions of internal organizational communication which need to be focused for enhancing vigor, dedication and absorption of employees.

Keywords: employee engagement, engagement strategy, organization communication, media organization.

1. INTRODUCTION

All organizations have to face a non-stop changing and competitive business environment. Within this circumstance, every organization is constantly in an attempt to maximize profits, enhance the quality of products and services as well as exceed customer expectations by taking the advantage of national labor force. Effectiveness and capacity are strongly stated as the ever important requirements in this decade by business managers. With the goal of continued growth and prospers; businesses will inevitably have to confront and conquer obstacles in such adverse market. Managers have figured out that a well-known brand, a new line of product or even an introduction of new technologies is not enough to create sustained competitive advantages. Therefore, labor force is considered to be the most crucial factor playing a decisive role in a company's competitiveness and sustainable development. Once the employees are able to work to their full capacity and satisfy with their jobs, the organization will receive undeniable values as well as expected results. Though it is widely acknowledged that organizations with highly employee engagement have positive outcomes in their business results, there was still less focused on the role of employee engagement among organizations. Tower's Perrin's research about worldwide labor work figured that only 21% of their employees are engaged at work and 38% of them lacked the engagement from medium level to extreme level at work.

Thanks to the geographic advantages, commitments to continued reformation and the launch of "Doi Moi" program (meaning "reconstruction"), Vietnam has been transformed into one of the most dynamic emerging markets in the world that is considered as the second fastest growing economy in Asia and to be one of the largest recipients of FDI in the world (FIA Vietnam, 2015). The recent globalization has also brought Vietnam as a competitive player in the new economy. Now due to the ease of access, technology is having an equalizing effect, leaving employees the key to secure and maintain their competitive advantages. Employee engagement has become one of the most leading priorities in Vietnamese organizations to reach the high commitment of their employees to the company. The Vietnamese News industry has significant contributed to the socio-economic development of the country. Despite that role and impact on promoting the national welfare, the Vietnamese News sector remained the lowest number of engaged workforce compared with others. The number of fully engaged laborers accounted for only 33% of the total employees; while 53% of them just feel partially engaged and 14% of them feel totally disengaged with their organizations (Dien, 2007). Moreover, media companies and creators seem to be entering a new period of confusion, as the financial, technological and consumer behaviors they counted on are changing rapidly. It is no secret that the media industry has been high on the list of businesses that have been

disrupted by the Internet and are struggling to find a new footing. This implied that the Vietnamese News industry is experiencing competitive disadvantages and therefore promoting workforce engagement is an essential task for the managers working in this industry.

Iyer and Israel (2012) considered internal communication as a key element in promoting employee engagement. All the organizations have agreed that close communication among employees can bring higher levels of engagement (Baumruk et al., 2006; Debussy, Ewing, & Pitt, 2003; Yates, 2006). With this perspective, this study mainly discusses on how internal communication can lead to engagement at the organization-employee level in the workplace and how it strengthens the journalists' performances. Findings of this study are expected to provide a theoretical and practical representation of organizational communication processes in Vietnam news sector organizations.

The following research questions will be addressed in this study:

1. How is internal organizational communication in Vietnam News Organization described by the employees along
 - 1.1 frequency
 - 1.2 mode
 - 1.3 quality
 - 1.4 content
2. How is employee engagement in Vietnam News Organization described?
3. How does internal communication relate to employee engagement?

From the research questions above, here are the hypotheses formulated for this study:

- H₁: The frequency of internal organizational communication has positive influences on employee engagement.
- H₂: The mode of internal organizational communication has positive influences on employee engagement.
- H₃: The content of internal organizational communication has positive influences on employee engagement.
- H₄: The direction of internal organizational communication has positive influences on employee engagement.
- H₅: The quality of internal organizational communication has positive influences on employee engagement.

2. CONCEPTUAL FRAMEWORK

2.1 Internal Communication

Internal communication had been theorized as a key factor in establishing and maintaining employee engagement in the organization (Welch, 2011). The Corporate Leadership Council (2004) identified a number of drivers of employee engagement. The levels of promoting employee engagement included good internal communication, reputation for integrity and a culture of innovation.

CIPD (2006) conducted a survey of 2,000 employees across the Great Britain pointed out that communication is a top priority to lead employees to engagement. The report singled out having the opportunity to express their views and opinions upwards as the most important driver of people's engagement. The report also identified the importance of keeping information about what is happening in the organization current with the employees.

In recent years, more people pay attention to internal communication in corporate communication research (Vercic, Vercic, & Sriramesh, 2012). Internal communication could be described as the

"communication with internal employees in the organization" (Cornelissen, 2011). Internal communication not only allowed the company to have the information and knowledge sharing among employees (Tourish & Hargie, 2004a) but also gives the leadership chance to meet, make a commitment to them (Tourish & Hargie, 2000) and gives them the opportunity to raise their voice. (Morrison & Miliken, 2000). Internal communication is important because it affects the company's crux (Yates, 2006) and, quite simply, is a contributing factor to the success of the company (Forman & Argenti, 2002; Tourish & Hargie, 2004d).

Internal communication consists of different types of information including the role of workers, individuals' influences, group information, project information and organizational issues (Smidts et al, 2001; Welch & Jackson, 2007). Communication related to the role of an employee (such as goal setting, evaluating and daily activities) and organizational issues (goals, development, operation and new record) is the core of this research due to these two reasons. First, specific communication which is to inform employees about their roles and organizational problems are controlled and managed by dominant coalition (Smidts et al, 2001; Welch & Jackson, 2007). Second, internal communication about employee's roles and organizational issues represented the essential relationships at workplace that employees need to experience: the relationship with the organization (Sluss et al., 2008).

According to Welch and Jackson (2007), one of the recent theories about internal communication has based on the stakeholders approach, where internal communication is divided into four interrelated aspects under the stakeholders: management of internal communication lines, group internal communication, internal communication projects and internal corporate communication. In their approach to internal communication, Welch and Jackson (2007) focused on the fourth dimension, namely internal corporate communication. It was defined as "communication between an organization's strategic managers and its internal stakeholders, designed to promote commitment to the organization and created a sense of belonging, awareness of changing the working environment and understand its development goals"(Welch & Jackson, 2007). The role of internal communication was to convey the problems of companies as the goal and objectives (Welch & Jackson, 2007).

Internal organizational communication happens between the executive teams (CEO, senior manager) and employees. The importance of considering the internal organizational communication comes from the beliefs of Nanus and Bennis (1985) who believed that the communicational levels are essential in organizations. Moreover, Bennis and Nanus (1985) suggested organizations to communicate with their employees about the organization's goals, vision and values, as well as the specific role-related tasks, in a way that it suggests and encourages employees to respond to feedback. Therefore, it is important to understand how to conduct internal communication effectively in order to strengthen the organization and connect internal communication with employee engagement.

Johlke and Duhan (2000) had defined internal communication as a multidimensional concept with four dimensions: communication frequency, communication mode, communication content, and communication direction. They believed that most of the research in organizational communication, obviously or implicitly, adopted a systemic perspective implying that internal communication should be described by using this four dimensions (Johlke & Duhan, 2000). However, there's another dimension of internal communication which is often known as the communication quality or the quality of information. Maltz (2000) defined the quality of information as "the value level of the information that an individual can perceive when received it from the provider." Johlke and Dunhan (2001) determined the perception of communication quality as an intervening variable between the variables of communication between sales manager and sales staff, and the results of work at the individual level.

While the quality of communication acts as an important dimension of internal communication, it could only be defined as a regulatory element and was a variable in the model results and the theoretical concepts (Johlke & Duhan, 2001; Maltz, 2000) and had never been seen as a dimension of internal communication. The fifth dimension of internal communication is to have the support for judging the quality of communication. Therefore, as depicted in Figure 1 below, the study will

summarize five main aspects of internal communication as well as six extra dimensions covering all aspects of the concept.

The mode of communication including formal and non-formal channels is used to transmit information between the sender and the recipient. Similarly, the content of communication and the orientation communication have two sides and each side covers a strategic nature that is used by the sender to influence the attitude of the recipient as well as the flow of information.

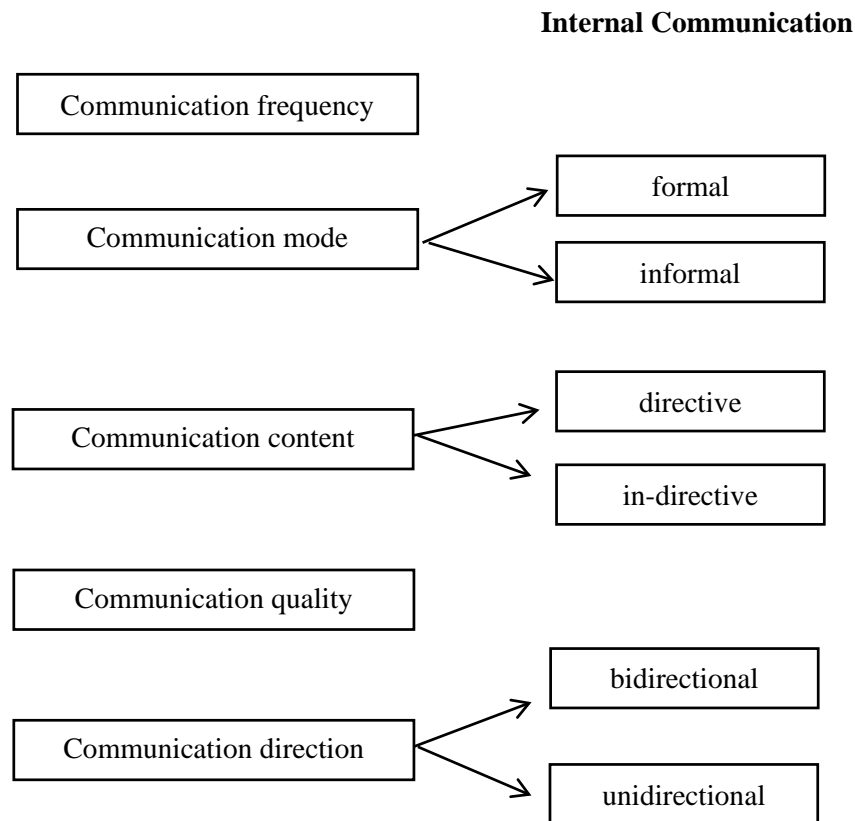


Figure 1. Dimensions of Internal Communication. Adapted from Johlke & Duhan, 2001.

Communication Frequency

Communication frequency referred to the amount of communication between an organization and its employees (Farace, Monge, & Russell, 1977). A key assumption here was that a greater amount of communication would be beneficial in the workplace (Keller, 1994). More frequency of communication from the senior managers and the directors were considered as the major determinants creating good performance and higher levels of satisfaction (Keller, 1994; Kim & Umanath, 1992; Zeffane & Gul, 1993). However, an excess of information might come to naught. Ganster and Schaubroeck (1991) argued that if the organizations communicated too often, the employees started to feel pressured and overloaded in communication. Moreover, Maltz (2000) said that if the organization communicated with staff in an excessive or insufficient way it would cause information overload or confusion.

Communication Mode

Communication mode implied that communication channels were used to transmit information from senders to the recipients (Stohl & Redding, 1987). According to Maltz (2000), four general modes of communication were often cited in previous studies were internet, written, in person and via the phone- all of which were seen as formal or non-formal methods (Johlke & Duhan, 2000). Formal modes of communication follow an organization's chain of command and are impersonal in nature.

These methods, which were designed to help the organization achieve its goals, include e-mail, newsletters, reports, pre-scheduled meetings, memos and conference calls (Johlke & Duhan, 2000; Maltz, 2000). As an alternative, informal modes of communication did not follow the chain of command of the organization, personalized and often improvised. They are designed to help implement the individuals' goals, including handwritten notes, the talks at the hall, phone messages, the meetings which are not prepared in advance, group blogs (Johlke & Duhan, 2000; Maltz, 2000).

Communication Content

The communication contents referred to types of influential communication strategies used by organizations and supervisors to guide the employees (Fisher, Maltz, & Jaworshi, 1997). The sender will use one of these two strategies to communicate with the recipients: a directive or an in-directive strategy (Johlke & Duhan, 2000). An organization could use a directive communication strategy to give employees the direction and specific guidance. One directive strategy could help leaders give direct instructions but it was usually not flexible (Johlke & Duhan, 2000). As an alternative, an in-directive communication strategy becomes more flexible in its nature (Mohr, Fisher, & Nevin, 1996). As organizations implemented an in-directive strategy, they were allowing and encouraging their employees to contribute to the decision-making process (Teas, 1983).

Communication Direction

The direction of communication was defined as the flow of information and feedback within an organization (Farace et al., 1977). According to Johlke and Duhan (2000), information or communication, can move in many ways that are either two-way (bidirectional) or one-way (unidirectional). Unidirectional communication happens when organizations and supervisors provide information with employees and do not encourage the staff to respond with feedback or ideas (Johlke & Duhan, 2000). Bidirectional communication happens when organizations and supervisors provide information and encourage employees to give feedback (Johlke & Duhan, 2000).

Communication Quality

The quality of communication is understood through the individual's perception of the value of the information they received (Maltz, 2000). The quality of communication is the extent to which communication is said to occur in time (at current time and received as needed), accuracy (can be trusted and often correct), full (enough to get the job work), and perfect (easy to understand and not missing important information). The quality of communication is important in achieving organizational efficiency, productivity and motivation of the staff (Maltz, 2000).

2.2 Employee Engagement

Several studies have been conducted to measure the construct of engagement and so far, most of them are limited to three approaches which was Role Theory Approach (Kahn, 1990; May et al., 2004), the Burn-Out Approach (Maslach & Leiter, 1997; Schaufeli et al., 2002), and the Social Exchange Theory (SET) Approach (Saks, 2006). The Role Theory Approach defined personal engagement as the harnessing of organization members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances (Kahn, 1990).

So the engagement was interpreted as psychological presence while performing the role of the organization. Burn-Out approach, initiated by Maslach and Leiter (1997) argued that the engagement was the subject of the positive reaction. According to this scholar, the engagement was characterized by energy, involvement and effectiveness which were in direct contrast with the three aspects of exhaustion - exhausted, cynical and not effective.

Schaufeli et al. (2002) rejected this approach by arguing that "it is not plausible to expect both the concepts to be perfectly negatively correlated with each other". So they determined that engagement is "a positive status related to the job is characterized by vigour, dedication, and absorption".

Finally, the approach SET, launched by Saks (2006) argued that the different degree of engagement was a way for individuals to respond to their organization in economic resources, social feelings they

got from it. Although the work performance was usually assessed and used as the basis for the compensation and other administrative decisions, employees were more likely to trade their engagement to retrieve property resources and other benefits provided by the organization.

This study adopted the definition of employee engagement by Schaufeli et al. (2002). Employee engagement was applying as a multidimensional concept including three dimensions: vigor (behavior), dedication (emotion), and absorption (cognition) (Schaufeli et al., 2002). Vigor was defined as “high level of energy and mental resilience while working the willingness to invest effort in one’s work, and persistence even in the face of difficulties” (Schaufeli et al., 2006). Dedication was defined as “being strongly involved in one’s work and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge” (Schaufeli et al., 2006). Finally, absorption was defined as “being fully concentrated and happily engrossed in one’s work, whereby time passed quickly and one had difficulties with detaching oneself from work” (Schaufeli et al., 2006). Therefore, as described in Figure 2 below, this study will merge these three aspects of the concept of employee engagement.

Employee Engagement

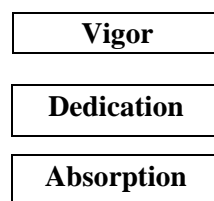


Figure 2. Dimensions of Employee Engagement.

2.3 Theoretical Linkages between Internal communication and Employee engagement

In an age of innovation and challenges, communication is the key to business development and sustainability that Hoover describes as "even in tough times, good communication keeps employees engagement and organizations keep moving forward". Lack of communication can create a "discrepancy between what employees hear from the manager and what they see in the media, which led to the employee distraction, loss of working motivation and confidence caused by a lack of transparency - whether it is real or just a perception".

The role of internal communication in the formation and maintenance of employee engagement had been recognized in previous studies (Kress, 2005; Saks, 2006; Welch & Jackson, 2007). Many studies in the larger scope of academic history identified the relationship between internal communication and the promising results at a personal level and organizational level. Organizations that have effective communication will achieve turnaround employees with less resistance and more profits for the shareholder, the commitment and employee engagement can achieve higher (Guzley, 1992; Sias, 2005; Yates, 2006). According to Yates, "communicating effectively promotes employee engagement, commitment, employee retention rates and profit. In turn, help the companies operate more smoothly with higher productivity and generate better financial returns".

Attridge (2009) reported that the study conducted by Watson Wyatt consulting firm (2007) suggested that "Companies communicate effectively with employees have the ability to achieve employee engagement 4 times higher." Mercer's survey about Man at Workplace (2002) also found that "there is a connection between the leader’s interaction and better employee engagement." Tourish and Hargie (2009) reported that among 100 best companies to work in the UK (as determined by the Sunday Times), 63 percent of them have good employee engagement and "it is no surprise that communication appears as a frequent subject". Tourish and Hargie (2009) also pointed out that

internal communication (based on accurate information, trust and interaction) can link to real satisfaction at work.

Moreover, organizations CIPD (2010) also said that two-way communication is crucial to employee engagement and "strengthening personal connections between staff and board leaders - including the CEO and the board – has become the focus of the agenda of many organizations." Further, Rich, Lépine and Crawford (2010) acknowledged that if communication in organizations becomes true with respect, courtesy and dignity, it will play an important role in creating the engagement. In addition, the full explanation and timely feedback in the decision making will create a higher level of trust (Folger & Konovsky, 1989; Konovsky & Cropanzano, 1991; Sapienza & Korsgaard, 1996). Obviously directors who take the time to explain their decisions are often considered more trustworthy. Finally, open communication, to which the directors exchange thoughts and ideas freely with employees, will increase the level of awareness about the reliability (Farris et al., 1973; Gabarro, 1978; Butler, 1991). Lockwood emphasized that "the lack of communication or poor communication information can lead to distrust, resentment, suspicion, skepticism and useless employee turnover rate."

3. METHOD

3.1 Sample

The target population for this study is the non-executive working population of Vietnam News Organizations. Individuals who participated in the research and were holding the executive management positions (Owners, Partners, Editors) or senior management positions (department heads, chief columnist) in the organizations were excluded from the target population set because, generally, they are people who provide information rather than the recipients.

The sample size plays an important role in determining the statistical strength of the result of this research investigation. Hair, Black, Babin, Anderson, and Tatham (2010) acknowledged that a researcher would not do the analysis for samples with less than 50 responses therefore an ideal sample should have over 100 ones. The research requires that the number of response must be 5 times bigger than the number of variables and the ideal sample size should reach the rate a 10:1 ratio (Hair et al., 2010). In terms of the staff survey, 200 questionnaires were created on the basis for the sample size, however, only 180 questionnaires were fully completed. These 180 questionnaires represent 90% of the total number of questionnaires sent out were significant and enough for analysis.

3.2 Research Instruments

The instruments used for this study were:

a) An adapt version of were used by Johlke & Duhan (2000), and Maltz (2000). These scales measure the employees perceptions about the communication occurring within the organization and have five distinct dimensions. Respondents indicated on a 7-point Likert scale, the extent to which they were satisfied with of these five communication dimensions and six sub dimensions: communication frequency, communication mode (formal and informal), communication content (directive and indirective), communication direction (bidirectional and unidirectional), and communication quality. To make it fit the other instruments of employee engagement, the instrument was modified by using 5 point Likert rating scale from strongly disagree to strongly agree.

b) The employee engagement is measured by the scale developed by Schaufeli, Salanova, Gonzalez-Roma and Bakker (2002), the Utrecht Work Engagement Scale (UWES) instrument was developed to assess employee engagement across three measures: vigor, dedication and absorption. Participants (students and employees) are asked to respond to each item on a six-point Likert scale relating to the frequency with which they experience specific feelings in relation to work. Although 17- and 15 item UWES versions have been used to measure engagement successfully, research and testing have shown that internal consistencies are good for a shortened, nine question version of the UWES instrument in this study.

The above scale was selected as they are this most widely used and has achieved acceptable levels of validity and reliability.

4. ANALYSIS AND RESULT

The internal organizational communication in Vietnam News Industry was described by computing the means of all the responses of the Johlke & Duhan (2000), and Maltz (2000) questionnaire. The satisfaction level of the dimensions of Frequency, Mode, Content, Direction and Quality was computed by calculating the mean of the responses corresponding to each dimension. Pearson Correlation Coefficient was thereafter computed to determine the degree of association between the following.

Table 1

Pearson correlation between internal communications and employee engagement.

Dimension of Internal Communications	Pearson Correlation Coefficient with the Employee Engagement
Frequency	0.094
Mode	0.232
Content	0.269
Direction	0.332
Quality	0.261

Based on the results, there are 4 main factors that influence employee engagement: the mode, direction, content and quality of internal communication from the organization

4.1 Internal Organizational Communication Composite and Employee Engagement

The multiple regression model with all three predictors produced $R^2 = .583$, expressing that the model collected from ANOVA has accounted for 58% of the variance; F value is 48.694, and p is <0.05 which shows that the model is statistically significant and indicate the strength of the relationships between internal organizational communications and employee engagement

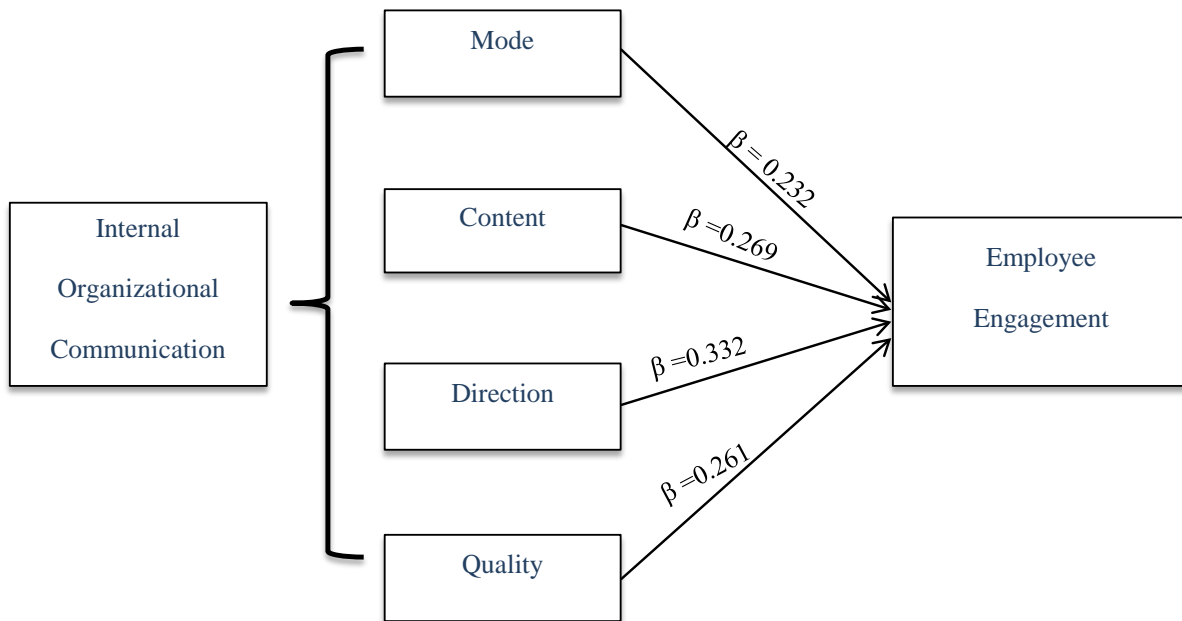
Table 2

The relationship between internal organizational communications and employee engagement

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
1	.764 ^a	.583	.571	.51134	48.694	.000 ^a

4.2 Internal Organizational Communication dimensions and Employee Engagement

In terms of the relationships between specific dimensions of internal organizational communication and the employee engagement, the correlation analyses showed the following:



Graph 1. The relationship between specific dimensions of internal organizational communication and employee engagement.

5. DISCUSSION

As expected, the overall results of this study emphasized the role of internal organizational communication in influencing employee engagement. The internal organizational communication-employee engagement relationship receives significant support during the process of examined the Hypotheses from H1 to H5. To test the hypotheses of the research structural model, a multiple regression analysis was employed, together with correlation analyses. The results indicated that four hypotheses were significant at 0.000 level. Hypothesis 1, frequency is negatively related to employee engagement, was significant at 0.07 level. Therefore, hypothesis 1 was rejected ($\beta=0.094$, $p=.077>0.01$). Hypothesis 2, mode is positively related to employee engagement, was accepted ($\beta=0.232$, $p=0.000<0.01$). Hypothesis 3, content is positively related to employee engagement, was accepted ($\beta=0.269$, $p=0.000<0.01$). Hypothesis 4, direction is positively related to employee engagement, was accepted ($\beta=0.332$, $p=0.000<0.01$). Hypothesis 5, quality is positively related to employee engagement, was accepted ($\beta=0.261$, $p=0.000<0.01$). It could be concluded that mode, content, direction and quality of internal organizational communication had a positive effect on employee engagement.

The results are similar to the assertion in theory which said when the organization (the CEO and executive team) provides resources (internal organizational communication) in a beneficial way, the staff will consider the favorable relationships and respond with cognitive, emotional and positive behavior (Cropanzano & Mitchell, 2005). We can infer from the results that when an employee is provided ways to interact with the upper managers, there will be significant impacts on their engagement with internal communication.

6. MANAGERIAL IMPLICATIONS AND DIRECTIONS FOR FUTURE RESEARCH

The findings of this study in news industry have implications for both practice and research, this study also contributes to the theories related to the relationship between internal communications and employee engagement. Although previous studies gave information about this relationship and details about job satisfaction, there still remains limited research data. This study has added to the literature by building a model clarifying the components influencing the employee engagement in news organizations in Vietnam. In addition, the research also gave a big picture of the model and research issues. This exploration additionally added to the comprehension of components influencing

employee engagement in the working environment. It demonstrates that internal communication is the component affecting employee engagement. The scale items were studied in developed countries, and the investigation had to be altered to be fit for Viet Nam context through the empirical data. Subsequently, the study will contribute to literature and give researchers a full understanding on these variables in a Vietnamese setting.

There are confirmations to propose that engaged employees are more effective and produce astounding work in news organizations; in this manner giving advantages to their employers. Understanding the role of internal communication in developing employee engagement can help news organizations create training programs, rewarding system and practices to enlist and retain talented workforce and encourage employee engagement and subsequently add to the practicality of the organization. Since internal communication is connected to and predicts employee engagement, then news organizations can build their employee engagement by prioritizing highly important practice, for example, creating an environment in which managers and staff can collaborate and convey transparently and casually. There should be a two-way communication between journalists and managers/editors, and they should create an environment that encourages bottom-up communication to achieve hierarchical objectives, as well as to engage staff and benefit the organization.

Future studies should be conducted with a larger demographic representation in order to generalize the results and based on managers' view to get valid evaluations about the quality of internal communication and employee engagement. Moreover, it would be interesting to see more advanced studies about communication campaigns that the organizations should use to influence employee engagement. This type of research can provide valuable internal resources for organizations. Lastly, the research only focused on the HCMC news industry and cannot cover all the industries and different types of the organizations. Generalization of the present findings should be examined in further research in other types of the organizations with different samples and different industries to enhance the consistency of the results.

7. LIMITATIONS

This study is limited by some elements that are beyond the researchers' control. First, all the data were summed from personal reports which mean the data reflect the participants' beliefs. Their thoughts may not be representative of the whole population. Some participants may not answer questions honestly, because of the fear of potential negative effects from their employers.

A second limitation is the use of self-report survey via online medium that was mailed to the researcher. This study was not designed to prevent the participants from completing the survey multiple times or providing false information. This is a limitation of the investigation

8. CONCLUSION

The larger purpose of this paper is to specify whether the internal communication affects engagement of employees in news organizations or not. We saw that there was a relationship between them after testing the elements of communication and the engagement. The results showed that organizations can use internal communication to improve employee engagement. However, it cannot say that these results are true for the public because the samples are the journalists. This inevitably leads to the fact that more specialized social science researches might be conducted in real organizations.

While studies about internal communication and employee engagement were conducted in the past, we can see that records about the relationship between them are very rare, especially in terms of clarification of its relationship. This study not only provides data supporting the existence of the relationship but also gives useful information about how the organizations can improve the employees' experiences and strengthen their success.

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ORGANIZATIONAL CULTURE AND FIRM PERFORMANCE – A COMPARATIVE STUDY BETWEEN LOCAL AND FOREIGN COMPANIES LOCATED IN HO CHI MINH CITY

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ABSTRACT

This study investigated the relationship between organizational culture, job satisfaction, and firm performance in local companies and foreign companies located in Ho Chi Minh City. Multifactor Culture Questionnaire, Firm Performance Index, Job Satisfaction Survey were used. 427 valid questionnaires were collected with 246 foreign respondents and 181 respondents from local companies. The results showed that both supportive culture and innovative culture have a significant positive impact on job satisfaction and firm performance. There is a positive relationship between job satisfaction and firm performance, and no difference between local and foreign companies in terms of innovative culture. Supportive culture dominates in foreign firms, and bureaucratic culture dominates in local firms. To improve job satisfaction and firm performance managers should emphasize positive supportive and innovative cultures.

Keywords: Organizational culture, job satisfaction, firm performance, Ho Chi Minh City

INTRODUCTION

Blunt and Jones (1992), George and Jones (1996), and Zakaria (1997) argued that all organizations, everywhere, function within a specific culture. Organizational practitioners have been bedeviled by management problems having roots in the organizational culture resulting high performance. Ahiauzu (1986) commented that it is becoming increasingly widely accepted among social scientists, especially managers and organizational theorists that the patterns of management and employee behavior in the work place are largely culture-bound. There is indeed a growing body of literature concerning questions of cultural influences on organizational behavior and performance but that much of it is of poor quality consisting of anecdotes, prescriptions based on Western experience and fantasies. Thus there exists the problem of a dearth of research focusing exclusively on the impact of culture on organizational performance. This is the reason why this study was conducted.

LITERATURE REVIEW

Culture does not have a uniform definition. Griffin and Pustay (1999) presented culture as a collection of values, beliefs, behaviors, habits and attitudes that differentiate societies. Kuazaqui (1999) argued that culture is a sum of behaviors, beliefs, habits and symbols that are passed from generation to generation. Schein (1992) considered that culture can be analyzed as a phenomenon that surrounds everyone all the time. Culture is constantly represented and created by our interaction with others (Schein, 1992). Organizational culture is the shared understanding of the beliefs, values, norms and philosophies of how things work (Wallach, 1983). According to Wallach (1983), there are three types of organizational culture, namely: (1) Bureaucratic, (2) Innovative, and (3) Supportive cultures. A bureaucratic culture is a very organized and systematic culture based on power and control with clearly defined responsibilities and authority. Organizations with this culture are mature, stable, structured, procedural, hierarchical, regulated and power-oriented; An innovative culture is a creative, result oriented, challenging work environment and is portrayed as being entrepreneurial ambitious, stimulating, driven and risk-taking; A supportive culture displays teamwork is people-oriented, encouraging, with a trusting work environment. Open, harmonious, safe, sociable, trusting, equitable, collaborative and humanistic are the characteristic of this culture. Wallach (1983) also stated that an employee is more engaged in a job and realizes full potential when the motivation and the organizational culture match. This is very important in recruiting, managing, motivating developing and retaining employees (Wallach, 1983).

Job satisfaction is the extent to which people like (satisfaction) or dislike (dissatisfaction) their jobs (Spector, 1997). Job satisfaction is relating to current work. This depends on how much of needs and wants are satisfied (Finn, 2001). Job satisfaction is multi facets including the employee feelings about different job elements, intrinsic as well as extrinsic. It includes specific satisfaction associated with pay, benefits, supervision, organizational practices, promotion, work conditions and relationships with co-workers (Misener et al., 1996).

If operations add value to the original cost of resource inputs then a business organization can earn a profit – that is, sell a product for more than making it. Value is created when an organization's resources are utilized in the right way, at the right time, and at minimum cost to create for customer high-quality goods and services. The best organizations utilized a variety of performance measures. On the customer side, high performing firms measure customer satisfaction and loyalty, as well as market share. On the employee side, they measure retention, career development, job satisfaction, and task performance. A common measure of overall performance is productivity, the quantity and quality of work performance, relative to resources used. Productivity can be measured at the individual and group as well as organizational levels.

Koustelios (1991) reviewed a number of investigations correlating job satisfaction with organizational culture, and found that there is a significant difference in job satisfaction of employees who operate in different organizational cultures. Also, he found that when employees have a match between their present and desired cultures, they are more satisfied with the intrinsic aspects of their work.

According to Wallach (1983) job satisfaction depends on a combination of the characteristics of an individual and the culture of the organization. An employee may be more effective when the culture of business related to a level of job satisfaction. The bureaucratic culture based on power and control that makes it difficult for employees to be satisfied because achievement motivation is limited. Employees are motivated to improve performance by having (Wallach, 1983). Bureaucratic culture has negative influence on organizational performance; bureaucratic culture generally has tight task orientation, weak connection, pays attention to rules as well as procedures for their own interests, and uses rules and procedures. A supportive organizational culture improves organizational performance. Ogbonna and Haris (2000) reported that innovative culture is positively related to organizational performance.

A positive organizational culture has the potential to enhance organizational performance, employee job satisfaction, and the sense of certainty about problem solving (Kotter, 2012). If an organizational culture becomes incongruent with the changing expectations of internal and/or external stakeholders, the organization's effectiveness can decline (Ernst, 2001). The evidence regarding the organization culture and performance is mixed. Studies showed that the relationship between many cultural attributes and high performance has not been consistent over time (Denison, 1990; Sorenson, 2002). Based on what we know about culture-performance relationships, a contingency approach seems to be a good one for leaders to adopt (Burns & Stalker, 1961; Burt, Gabbay, Holt, & Moran, 1994).

HYPOTHESES AND RESEARCH MODEL

Based on the preceding discussed literature, the following research model (Figure 1) and hypotheses were proposed:

- H₁: Bureaucratic culture is negatively associated with job satisfaction
- H₂: Innovative culture is positively associated with job satisfaction
- H₃: Supportive culture is positively associated with job satisfaction
- H₄: Bureaucratic culture is negatively associated with firm performance
- H₅: Innovative culture is positively associated with firm performance
- H₆: Supportive culture is positively associated with on firm performance
- H₇: Job satisfaction is positively associated with firm performance

H8: Organizational culture, Job satisfaction and Firm performance have significant differences between foreign and local companies.

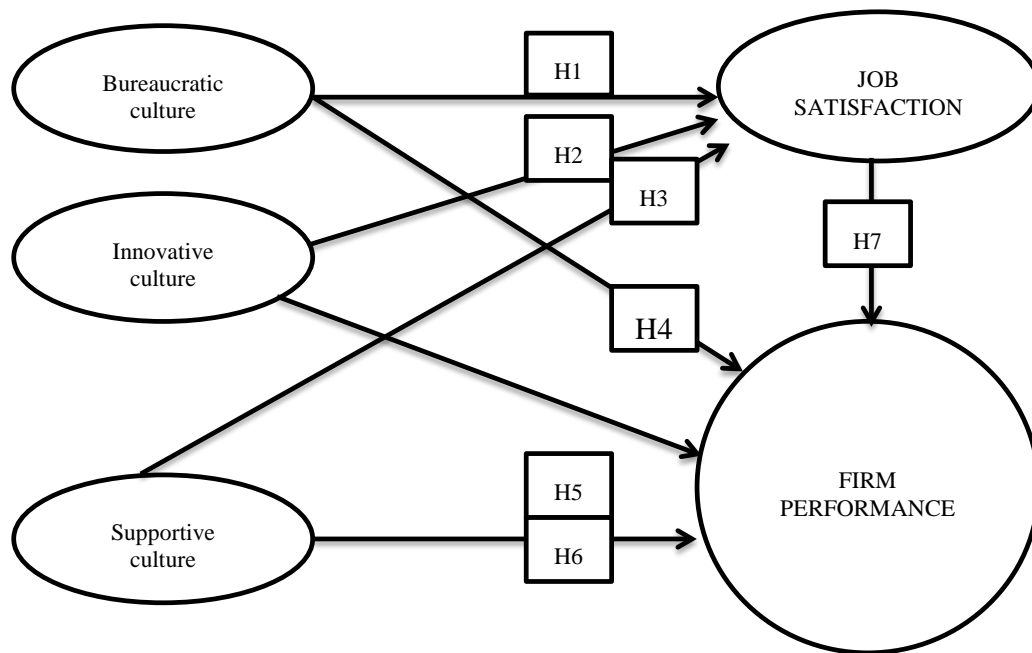


Figure 1. The proposed research model.

Measurement

Five latent variables are measured by thirty seven items. Table 1 show all items utilized in this study. The study used a quantitative approach. 500 questionnaires were sent to employees of local companies and foreign companies located in Ho Chi Minh City. 427 valid questionnaires were collected with 246 respondents from foreign companies and 181 from local companies.

Table 1
Measurement Scale of Variables

VARIABLES	CODE	STATEMENT	REFERENCES	
ORGANIZATIONAL CULTURE DIMENSIONS	Bureaucratic Culture	BC1	I do not have the right to decide in my work	http://www.hr-survey.com/EmployeeClimate.htm
		BC2	I follow all the requirements of the company	
		BC3	I have no chance of promotion at work	
		BC4	The company did not value my opinions	
		BC5	Firms with bureaucracy reduction initiatives	
	Innovative Culture	IC1	Managers foster an organizational culture that promotes learning and creativity	http://www.hr-survey.com/EmployeeClimate.htm
		IC2	I am encouraged to develop new and more efficient ways to do my job	
		IC3	Our culture encourages high performance and process improvement	
IC4		My job enables me to make use of my skills and abilities		

		IC5	My job gives me professional growth and advancement future	
	Supportive Culture	SC1	Employees in my company cooperate with each other to get the job done	http://www.hr-survey.com/EmployeeClimate.htm
		SC2	I have freedom to make important decisions regarding to my work	
		SC3	I have clear understanding of the goals and objectives of my organization	
		SC4	I feel that my organization values my opinions	
		SC5	I am free to express my concerns and complaints	
		SC6	I feel free to ask advice/support from my manager	
		SC7	My company encourages employees to work to the best of their abilities	
		SC8	My company is able to maximize employee potential	
		SC9	Our culture promotes a balance between work and family life	
		SC10	Employees are encouraged to strive for continuously improved performance in my company	
JOB SATISFACTION		JS1	I am interested in my work	Adopted from Scott Smith (2013)
		JS2	I enjoy working at my company	
		JS3	I am sufficiently challenged by my work	
		JS4	I am proud to tell others I work for my company	
		JS5	I can see how I contribute to my company bottom line	
		JS6	I receive personal satisfaction from doing a good job	
		JS7	I get a sense of personal accomplishment from my work	
		JS8	I have good working relationships with my co-workers	
FIRM PERFORMANCE		FP1	Employees' attitude makes the customers satisfied	Adopted from David Witts (1992)
		FP2	My company's brand name is increasingly popular	
		FP3	The clients are satisfied with our company' services	
		FP4	The clients are satisfied with our quality products	
		FP5	My company' revenue increased with professional staffs	
		FP6	My company received the trust of employees	
		FP7	My company received the loyalty of employees	
		FP8	My company received the trust of customers	
		FP9	My company received the loyalty of customers	

Sample characteristics

Table 2 describes the characteristics of survey sample.

Table 2
Respondent Profile

Characteristics		Frequency	Percentage
Gender	Male	175	41
	Female	252	59
Age	Less than 25 years old	149	35
	From 25 to 40 years old	192	45
	Above 40 to 65 years old	77	18
	Above 65 years old	9	2
Education	High school	30	7
	Undergraduate	333	78
	Graduate	64	15
Position	Staff	329	77
	Middle manager	60	14
	Top manager	38	9
Experience	Less than 2 years	200	47
	From 2 to under 5 years	145	34
	From 5 to 10 years	56	13
	Above 10 years	26	6

Reliability Testing

The factor analysis of 21 cultural items resulted in 3 cultural constructs with 17 remaining items due to the items with a loading factor lower than 0.5 were deleted from the scale. These constructs account for 68.23 percent of the total variance. The factor analysis of 8 job satisfaction items resulted in one construct with 5 remaining items. The construct accounts for 53.64 percent of total variance. The factor analysis of 9 firm performance items resulted in one construct with 5 remaining items. The construct accounts for 46.28 percent of total variance. Cronbach's Alpha was used to test the reliability of the measurement. The results are shown in Table 3.

Table 3
Summary of Cronbach's Alpha

Variables	Number of Items	Cronbach's Alpha
Supportive Culture (SC)	6	0.870
Bureaucratic Culture (BC)	5	0.919
Innovative Culture (IC)	5	0.851
Job Satisfaction (SA)	5	0.781
Firm Performance (FP)	5	0.709

Testing results for H₁, H₂, H₃

The results showed that Supportive culture and Innovative culture have a significant positive effect on Job satisfaction. Bureaucratic culture has insignificant on Job satisfaction. Table 4 shows that there is a linear relationship between Supportive culture and Innovative culture and job satisfaction.

Table 4
Regression coefficient Organizational culture and Job satisfaction

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.422	.107		13.286	.000		
	SC	.305	.023	.484	13.292	.000	.785	1.273
	BC	.023	.022	.041	1.042	.298	.681	1.468
	IC	.323	.028	.453	11.518	.000	.673	1.487

Note. Dependent Variable: Job Satisfaction, $R^2 = 0.56$

Testing results for H₄, H₅, H₆

The results showed that Supportive culture and Innovative culture have a significant positive effect on Firm performance. Bureaucratic culture have no a significant relation with Firm performance (P-value = 0.707). Table 4 shows that there is a linear relationship between Supportive culture and Innovative culture and firm performance.

Table 5
Regression coefficient Organizational culture and Firm performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.062	.106		19.392	.000		
	SC	.158	.023	.308	6.941	.000	.785	1.273
	BC	.008	.022	.018	.376	.707	.681	1.468
	IC	.246	.028	.423	8.831	.000	.673	1.487

Note. Dependent Variable: Firm Performance, $R^2 = 0.346$

Testing results for H₇

Table 6 shows that Job satisfaction has a positive effect on Firm performance and explains.

Table 6
Regression coefficient Job Satisfaction and Firm performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.494	.107		13.988	.000		
	SA	.546	.029	.670	18.594	.000	1.000	1.000

Note. Dependent Variable: Firm Performance, $R^2 = 0.449$

Testing results for H₈

The two-sample (independent groups) t-test is used to test H₈ and the result showed in Table 7 below.

Table 7
Independent Samples Test

Variables	Mean		Mean Difference	P-value
	Local	Foreign		
SC	2.5166	3.5894	-1.07286	.000
BC	4.0796	2.9317	1.14785	.000
IC	3.4917	3.5829	-.09121	.209
SA	3.4122	3.7407	-.32850	.000
FP	3.3823	3.5146	-.13231	.002

From the “Independent Samples Test” results showed in Table 7 we can conclude that there are significant difference between local companies and foreign companies in term of supportive culture, bureaucratic culture, job satisfaction and firm performance. However, there is no significant difference between local and foreign companies in terms of innovative culture.

Table 8
The Summary of Hypothesis Testing

Hypothesis	Coefficient	P - value	Result
H ₁ : Bureaucratic Culture has a negative effect on Job Satisfaction	$\beta = .041$	0.298	Rejected
H ₂ : Innovative Culture has a positive effect on Job Satisfaction	$\beta = .453$	0.000	Accepted
H ₃ : Supportive Culture has a positive effect on Job Satisfaction	$\beta = .484$	0.000	Accepted
H ₄ : Bureaucratic Culture has a negative effect on Performance	$\beta = .018$	0.707	Rejected
H ₅ : Innovative Culture has a positive effect on Firm Performance	$\beta = .423$	0.000	Accepted
H ₆ : Supportive Culture has a positive effect on Firm Performance	$\beta = .308$	0.000	Accepted
H ₇ : Job Satisfaction has a negative effect on Performance	$\beta = .670$	0.000	Accepted
H ₈ : Organizational Culture, Job Satisfaction and Firm Performance has significant differences between foreign and local companies	Table 7	Table 7	Partial Accepted

CONCLUSION AND IMPLICATIONS

Supportive Culture and Innovative Culture has significant and positive influence on job satisfaction and firm performance; whereas Bureaucratic Culture has insignificant effect on them. The research results imply that those cultural factors are the effective tools to explain and predict job satisfaction and firm performance. Therefore managers should build supportive and innovative culture to improve job satisfaction and firm performance. Although this research has successfully explored the relationship between traits of organizational culture, job satisfaction and firm performance, some limitations still exist. First, sampling technique was used is convenience sampling so the generalization of research results is limited. There are many factors affect job satisfaction and firm performance, however this study just focuses on studying the relationship between culture types and job satisfaction and firm performance.

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ANTECEDENTS OF LUXURY BRAND REPURCHASE INTENTION OF IRANIAN CUSTOMERS, TEHRAN, IRAN

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ABSTRACT

The phenomenon of the growing trend of luxury brands consumption's popularity in the line with the growth of fashion consciousness of people around the world has necessitated conducting the research from some different perspectives regarding this issue. This paper aims to investigate the intention of repurchasing luxury brand products in Tehran, Iran. The findings illustrate the support for the influences of luxury brands perception in terms of functional, experiential, and symbolic dimensions on repurchase intention. The novelty and quality were found to have significant influences on repurchase intention. However, while personal value in terms of hedonism and materialism found to have an influence, social value only in terms of conspicuous value showed to have an influence on repurchase intention.

Keywords: luxury, brands perception, repurchase intention

1. INTRODUCTION

During last decades there have been significant changes in the purchase and consumption style of people. Close competition and the slow rate of population growth are leading branded garment industries to take new steps by entering into new markets and attracting new consumers (Hofstede & Steenkamp, 2002). People have shown their special interest globally by following new designs and fashions regarding their life styles and consumption patterns since long ago. Emerging economies in some developing countries which have high numbers of middle class population are compelling branded garment industries to make their presence stable in such countries (Dickson et al., 2004). There has always been a sense of satisfaction and joy in the possession of beautiful belongings among nations. Apart from functional advantages, people make decisions to purchase particular branded products either to have self-expression in terms of personality, social status, and satisfaction or to meet their own desire for novelty and newness (Fiore & Kim, 2006).

The accessibility and the growth of the luxury products market around the world through globalization have caused more familiarity of the people with these kinds of products. Moreover, other means of communication and information technology such as the internet, movies, and the media full of tempting views, advertising, and information about new arrivals of famous brands have made it so easy to get informed and to intend to acquire the desirable products which are observed via them. The increasing demand of emerging markets for luxury products (e.g. China and India) on the one hand, and the diversity of luxury products' categories on the other hand, have given an enormous rise to the growth of the luxury market (Silverstein & Fiske, 2003). As consumers find satisfactory feelings such as gratification and pleasure through the consumption of luxury goods, the attraction and charm of precious luxury products will similarly keep increasing for consumers (Yeoman, 2011). The concerned marketers try to investigate this intention in the minds of the people. Ajzen (1991) stated that purchase intention is an indicator that predicts repeating the purchase as a behavior. Therefore due to this fact there are more opportunities for luxury to grow and flourish in the global market. This researcher is aimed at offering a new understanding of the luxury brands consumption by applying previous frameworks and the empirical testing.

2. RELATED LITERATURE REVIEWS AND HYPOTHESES

2.1 Repurchase Intention

According to Shim et al. (2001), purchase or repurchase intention speaks for the level of mindful effort which is the motivational portion of a behavior that a person would apply in order to buy the

same product or services. Based on the consumer behavior's theory (Engel et al., 1995), the application of purchase intention is equal to the variable of repurchase intention and they are proven to be appropriate to use interchangeably in the literature review context where the behavioral intention is being discussed. Dodds et al. (1991) mentioned that in order to meet personal desires, a customer has a propensity to end up buying a product or service when he has already started to generate the intention of buying them.

2.2 Perceived quality

Zeithaml et al. (1988) defined perceived quality as the assessment made by a consumer concerning the overall degree of a product's perfection or superiority. Schiffman and Kanuk (2000) suggested that in many cases, perceived quality is defined as the judgment made by consumers based on some physical characteristics of a product such as, aroma, size, and color which are characterized as intrinsic cues, and that judgment can vary according to the differences which exist in the perception of consumers. Tsotsou (2006) also proved that purchase intention and perceived quality had a direct and positive correlation therefore he suggested using perceived quality as an indicator to predict purchase intention.

2.3 Novelty lovers:

Steenkamp et al. (1999) mentioned that novelty lovers is the innovative trend that can be defined as the predisposition not to remain with the previous choice and being willing to buy different and new products. According to Tiwari (2008), the innovation of a product can be described as significant improvements or changes which are made concerning its intended use or characteristics.

Yaslioglu et al. (2013) in their study found that innovation and novelty affects perceived quality. Also, Fernandez and Gomez (2005) mentioned that novelty is related to perceived quality by giving an example regarding some retailers try to increase innovation and novelty in their products or services aimed at enhancing their perceived quality to the customers.

And also from another perspectives, Wang et al. (2005) stated that novelty loving is a kind of individual's curiosity and attitude to seek differences and variety and make the decision accordingly.

Chaudhuri (2002) concluded that perceived quality is an influential element on purchase intention, so that those customers who perceive a higher level of quality, have a stronger purchase intention. Based on the explained statements and the model of study done by Levy and Guterman (2012), the researcher sets following null hypotheses:

H1₀: Novelty lovers variable has no significant influence on perceived quality towards repurchase intention.

H3₀: Perceive quality and novelty lovers have no significant influence on luxury brands repurchase intention.

2.4 Luxury brand perception

Based on Berthon et al. (2009), luxury brand perception is defined as the image of the labeled item to buy, which has been mindfully built and also is outstanding and extraordinary. Vickers and Renand (2003) also argued that three features make up the perception which help luxury products to be distinguished from non-luxury products are: experimentality, functionality, and symbolism.

Functional dimension

Functional value speaks for the perceived usefulness of an item which comes from its innate capacity and ability to fulfil its intended objectives (Berthon et al., 2009; Smith and Golgate, 2007). This ability can be in terms of overall quality, manufacturing process, and superiority of the product. Vigneron and Johnson (1999) mentioned that luxury products consumers purchase these kinds of products because they are interested in the sense of derived pleasure of using luxury products based on their expected quality and performances and consider less the prices. In other words, it is

concluded that luxury products' performance and quality are the ones that based on previous definitions can be conceptualized as perceived functional value influencing the repurchase intention of these products. Hennigs et al. (2015) also conducted the research about the complexity of value in the luxury industry from consumers' individual value perception of luxury consumption. They found that functional value along with emotional, financial, and social consideration is the one that has a significant influence on the purchase intention of luxury products.

Experiential dimension

Experiential value as what the customers think they can get from the experience of the luxury brands consumption which includes mental joy and beautiful pleasure from imagery factors of their uniqueness, rareness, and attractiveness (Berthon et al., 2009; Holbrook and Hirschman, 1982). Berry (1994) stated that the essence of consumption is the experience of some feelings such as self-indulgence, personal rewards, ownership, and satisfaction that can be provided by luxury goods. In other words, it can be interpreted that the luxury products customers repurchase with the intention of experiencing mental joy and beautiful pleasure are derived from the consumption of luxury products. Furthermore, according to Jones and Suh (2000) the experience of purchasing with satisfaction coming from enjoyable feelings of consumption of a specific product has a key role in forming future repurchasing behaviors. Moreover, some studied such as the one which was done by Roux and Floch (1996) have identified repeatedly the sense of gratification, excitement, and beauty which make up functional value perceived through the consumption of luxury brand products. It means that these kinds of feelings can affect repurchase intention based on previous purchase experience.

Symbolic dimension

Symbolic value is the advantage of being highly approved through the perception of luxury brand products which displays wealth, expensiveness, and conspicuousness (Berthon et al., 2009; Keller, 1993). Doss and Robinson (2013) suggested that consumers purchase luxury brand goods not only on the basis of their usefulness but also because of self-expressive, social, and symbolic value. Otnes et al. (1993) emphasized that community, social class and other structures have a systematic influence on consumption and therefore consumers conceive that they enact social roles. Kim (1998) also stated that luxury brand products show a symbol of prestige and status in society and the reason that individuals basically use these kinds of products is in order to be positively recognized in society.

Based on the explained statements and the model used in the study conducted by Hung et al. (2011), the researcher set the following hypothesis

H₂₀: Luxury brand perception in terms of functional, experiential, and symbolic value has no influence on luxury brands repurchase intention.

2.5 Social value

Based on Sheth et al. (1991), social value speaks for the perceived benefit of a choice which is the result of its picture and symbolism consistent with demographic, financial and social ethnic reference bunches. And also this variable has 2 sub-variables which are conspicuous and status value.

Conspicuous value

Conspicuous value is the perception derived from the usage process which is only to show and display wealth (Sheth et al., 1991; Mason, 1993). Rucker and Galinsky (2009) conducted a research under the title Conspicuous consumption versus utilitarian ideals: How different levels of power shape consumer behavior. And they demonstrated that those who feel powerlessness choose to restore power through conspicuous consumption with the intention of giving others the signal of status and often they do not much pay the same attention to the utility of the product. O'Cass et al. (2002) also mentioned that the process of conspicuous consumption is concerned with the action of boosting social status, showing wealth and communicating with others. Phau and Prendergast (2000) found that the popularity of the brand, which here can be interpreted as its conspicuousness, yields preferences that in turn would generate purchase intention.

Status value

Status value is the kind of value which is connected with the purchaser's desire to get esteem, and acceptance from society, and also to increase their social status through the consumption of highly prestigious products (Sheth et al., 1991; O'Cass and McEwen, 2004). Hyman (1942), mentioned that status is defined as having the higher position in some dimensions such as physical attractiveness, social wealth, athletic skills compared to others which are important to society. Furthermore, Sheth et al. (2012) described that in the process of making decision; status value plays an important role. Making decisions here is interpreted as purchase intention. According to Goldsmith et al. (2012), status value has a positive relation with clothing involvement; clothing is a nonverbal communication way in which the wearer can reflect their identity (Nandini and Jeevananda, 2012) and involvement is an individual's perceived connection to the subject on the basis of inherent value, needs, and interest (Zaichkowsky, 1986).

2.6 Personal value

Personal values are that kind of beliefs and ideas which are constant in a person's personality even under different circumstances. And it has 2 sub-variables which are hedonism and materialism value (Hirschman and Holbrook 1982; Bandura, 1986).

Hedonism

According to Hirschman and Holbrook (1982), hedonism is a kind of enjoyment and feeling coming from consumption regarding the delicate and fantastic features of the item use. Holbrook et al. (1982) described hedonism as a human's subconscious imagery and dream that would interfere in the processing system of his information. Lim and Ang (2008) stated that hedonism seems to be more motivation arousing rather than utilization. In terms of consumption this can be defined as the motivation for the intention of purchasing. Moreover, Olsen et al. (2012) concluded that the intention of purchasing organic wine is influenced by its hedonism value which leads to a hedonistic life style.

Materialism

Materialism value is a kind of a particular attention or interest that a person has towards owning more worldly precious goods or properties in his or her life (Hirschman and Holbrook, 1982; Belk, 1985). According to Belk (1985), materialism contains some dimensions that are relevant to the attitudes, traits, and the value of possessing which lead to selecting the items. It means that consumption is influenced positively by materialistic value. Teik et al. (2013) who studied about purchase intention and materialistic and ethical values as influential variables, found that materialistic value and ethical value were significantly related to purchase intention.

Based on the explained statements and the model of study conducted by Shukla (2012), the researcher set the following hypotheses:

H4₀: Social value in terms of conspicuous value and status value has no influence on luxury brands repurchase intention.

H5₀: Personal value in terms of hedonism and materialism has no influence on luxury brands repurchase intention.

The conceptual framework of the study is shown in the following part.

3. RESEARCH METHODOLOGY

Tehran is a city known for its modern lifestyle and attraction to affluent people. Mostly the rich prefer to live in the Northern area of the city from the East to West with their costly lifestyle. The price of land and houses as well as the rent also is much higher in the Northern areas compared to Southern areas of Tehran and only those who have a high level of revenue can afford living in such areas. Boroujerdi (2015) reported that the headquarters of insurance companies, Iranian banks as well as better facilities of the lifestyle including hospitals, airport, shopping centers, schools, etc. that all are found in Tehran, capital of Iran. And also the concentration of resources, jobs, and attractions of such

a city having an industrial-commercial culture are some factors tempting millions of Iranian people to migrate to Tehran from other cities. Therefore, Tehran can be considered a considerable part of the world market consumption of luxury products. And the researcher in this survey has conducted this study in the Northern area of such a vibrant and cosmopolitan city located in the Middle East in order to investigate the intention of purchasing or repurchasing luxury products which has a high rate of growth in the global market. The researcher adopted the five point Likert Scale to measure the level of the respondents agreement or disagreement with the related question. According to Zikmund (2003), the Likert Scale is a type of question which would provide the respondents a range of levels of agreement to rate regarding the statement which is mentioned in the question.

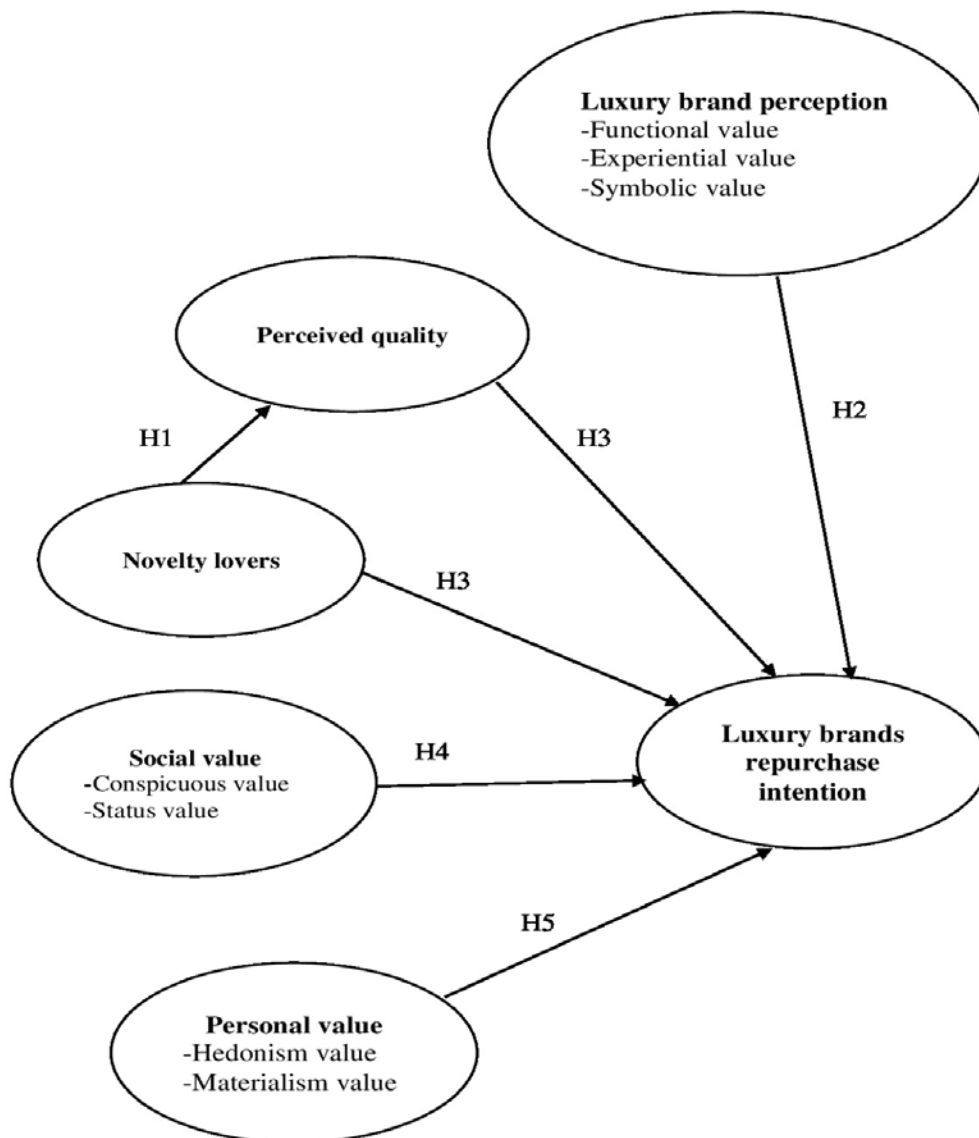


Figure 1. The proposed conceptual framework.

The levels of agreement are shown below:

1: Strongly disagree -, 2: Disagree -, 3: Neutral / neither agree nor disagree -, 4: Agree -, 5: Strongly agree. Total 423 valid samples were collected through the distribution of 450 questionnaires containing 40 items of questions among people found in shopping malls in Tehran, Iran where the luxury brand products are found. The questions regarding each variable in this study are presented in table 2 and have been adopted from previous studies. The study has the focus on top ten luxury brands in the world ranked in (2015) and is equipped with the screening question whether the participants

have the experience of using such brands or not. Top ten luxury brands are as follows: Louis Vuitton – Hermes – Chanel – Rolex – Cartier – Prada – Burberry - Michael Kors – Tiffany - Christian Dior.

The questions concerning luxury brands perception in terms of functional, experiential and symbolic dimensions have been adopted from Hung et al. (2011), questions concerning perceived quality from Erdogmus and Büdeyri-Turan (2012), questions regarding novelty lovers from Levy and Guterman (2012), questions regarding social value perception in terms of conspicuous, and status value and also personal value perception in terms of hedonism and materialism from Shulka (2012).

4. RESEARCH FINDINGS AND DISCUSSION

Descriptive analysis of demographics

By applying the descriptive analysis concerning demographic data obtained through 423 valid samples, the heist percentage and frequency of the results are shown in table 1.

Table 1
Demographic of Participants

Demographics	Characteristics	Frequency	Percentage
Gender	Female	270	63.8
Age	20 – 40	234	55.3
Marital Status	Single	260	61.5
Education	Bachelor	220	52.0
Income	2,000,000 – 2,500,000 Toman	136	32.2
The amount spent on purchasing luxury brands	1,100,000 to 1,600,000 Toman	146	34.5
The most favorite luxury product	Handbags	140	33.5
Number of times purchasing	Under 3 times	170	40.2
Total		423	100%

Hypotheses testing analysis

Inferential analysis was conducted by using Simple linear and Multiple linear regression. Simple linear regression was used to examine the hypnosis 1 and from hypothesis 2 to 5 all were tested by using multiple linear regression and all null hypothesis were rejected, meaning there are influences from the independent variables on the dependent variable. Table 2 shows the summary of findings of hypotheses testing of this study.

Table 2

The Summary of Results Hypotheses Analysis, Using Simple Linear and Multiple Regression

ANOVA^b

Model	Sum of Squares	Df	Mean Square	F	Sig
1 Regression	1.281	1	1.281	8.329	.004 ^a
Residual	64.731	421	.154		
Total	66.011	422			
a. Predictors: (Constant), mean NOV					
b. Dependent Variable: meanPRCQ					
1 Regression	6.055	3	2.018	20.565	.000 ^a
Residual	41.125	419	.098		
Total	47.180	422			
a. Predictors: BSV,LFV,LB E					
1 Regression	4.101	2	2.051	19.992	.000 ^a
Residual	43.079	420	.103		
Total	47.180	422			
a. Predictors: mean PRCQ, NOV					
1 Regression	1.888	2	.944	8.754	.000 ^a
Residual	45.292	420	.108		
Total	47.180	422			
a. Predictors: meanSVCV, STV					
1 Regression	6.965	2	3.482	36.369	.000 ^a
Residual	40.216	420	.096		
Total	47.180	422			
b. Dependent Variable: meanREPI					

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		Sig
	B	Std.Error	Beta	T	
1 (Constant)	3.437	.199		17.232	.000
meanNOV	.141	.049	.139	2.886	.004
a. Dependent Variable: meanPRCQ					
1 (Constant)	3.031	.197	.111	15.387	.000
meanLBFV	.094	.040	.264	2.339	.020
meanLBEV	.147	.027	.119	5.490	.000
meanBSV	.072	.028		2.553	.011
1 (Constant)	2.971	.213	.212	13.964	.000
meanNOV	.181	.040	.177	4.510	.000
meanPRCQ	.150	.040		3.761	.000
1 (Constant)	3.972	.082	.083	48.194	.000
meanSTV	.034	.022	.149	1.556	.120
meanSVCV	.075	.027		2.806	.005
1 (Constant)	3.496	.103	.125	34.066	.000
meanPRVM	.067	.027	.309	2.448	.015
meanPRVH	.154	.026		6.040	.000
a. Dependent Variable: RERPI					

Concerning the results obtaining from the analysis of hypothesis one, in this study it appeared that there is a significant influence of novelty lovers on perceived quality towards repurchase intention of luxury brand products. This result is consistent with the finding by Yaslioglu et al. (2013) who found that innovation and novelty affects perceived quality. Regarding functional dimension of luxury brand perception which is in hypothesis two, the researcher in this study found that there is significant influence of functional value on repurchase intention. This finding is supported by Hung et al. (2011) who studied about the Antecedents of luxury brand purchase intention and they found that functional value has an influence on purchase intention and had a positive relation with repurchase intention. Based on the findings through the analysis it was found that experiential dimension of luxury brand perception has a significant influence on repurchase intention. This particular finding in this study is supported by Berry (1994) who stated the essence of consumption is the experience of some feelings such as self-indulgence, personal rewards, ownership, and satisfaction that can be provided by luxury goods.

Regarding the analysis of symbolic value in hypothesis two, the researcher also found that there is significant influence of symbolic value perception on repurchase intention of Iranian customer of luxury brand products. This part of the analysis result is also supported by Doss and Robinson (2013) suggested that consumers purchase luxury brand goods not only on the basis of their usefulness but also because of self-expressive, social, and symbolic value. Regarding the analysis of perceived quality and repurchase intention which is in hypothesis three, the findings revealed that there is

significant influence of perceived quality on repurchase intention. As the finding in this particular part of study shows, Iranian luxury brand customers purchase such luxury brand product because they perceive quality through such products consumption. Based on the finding in this analysis and also the question related to this variable in the questionnaire, Iranian luxury brand customers believe that they can find durability, reliability, perfection, good fabric used, and overall quality in such products. This finding is also supported by Tsiotsou (2006) who proved that purchase intention and perceived quality had a direct and positive correlation therefore he suggested using perceived quality as an indicator to predict purchase intention.

Based on the result found from the analysis of novelty lovers in hypothesis three, the researcher found that novelty lover has a significant influence on repurchase intention of Iranian luxury brand customers. This finding is supported by Gleim et al. (2015) who studied An Examination of Consumer Perceptions of Innovation and found that innovation has a significant influence on purchase intention. The results regarding the analysis of conspicuous value in hypothesis four showed that there is significant influence of conspicuous value on repurchase intention. This finding in this study is also already proved and supported by Phau and Prendergast (2000) who found that the popularity of the brand, which here can be interpreted as its conspicuousness, yields preferences that in turn would generate purchase intention. However, the results of analysis regarding status value in hypothesis four showed that there is no influence of status value on repurchases intention in this study. This finding is not consistent with the results of other studies.

The result of analysis concerning hedonism from hypothesis five revealed that there is significant influence of hedonism on repurchase intention in this study. This finding is also similar to the result of study conducted by Shukla (2012) who found that the intention of purchasing luxury goods is influenced by hedonism value in the Western developed markets. As the result of hypothesis five analyzing materialism, it appeared that there is a significant influence of materialism on repurchase intention of luxury brand products in this study. This finding is consistent with Teik et al. (2013) who studied about purchase intention and materialistic and ethical values as influential variables found that materialistic value and ethical value were significantly related to purchase intention.

5. FUTURE STUDIES

The variables applied in this study were about different affective aspects that all were proved to be influential to purchasing or repurchasing luxury brand products. However, there is a room for future study to investigate the possible effect or influence revenue on this issue. Purchasing power is considered to be crucial to purchase intention and this financial state of residents is subject to change according to the economic situation of a country. Therefore, it can be a considerable issue to investigate whether those who have a higher income necessarily are luxury brand products buyers.

Collecting the data from the target population is also very important to the result of a study. In this researcher people who were found in shopping malls were questioned. However, it might be argued that there are many others who purchase their desirable luxury products while travelling abroad.

And finally, the word of mouth in terms of a brand's fame can also be an interesting factor to be studied. Some people purchase a specific product in a specific brand simply for the reason that others do or they might observe it as a trend. Future study can be involved with the issue to investigate if luxury brand customers purchase a specific brand kind mostly based on its fame and high status regardless of the functionality or not.

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CASE STUDY RESEARCH: INFORMATION SYSTEMS AND THE QUALITY OF AN ACCOUNTING SERVICE OFFICE

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ABSTRACT

An Accounting service office (ASO) plays an important role to global business segments, especially SMEs. This research aims to study the operation, technology and information security management of ASOs between certified and non-certified Thai accounting practices in Bangkok Metropolitan Region. From the results, the technological experience and background of the owner and the technological skills of personnel are significant factors which can be adjusted to modern technological and systematic pattern of service in order to improve quality; meanwhile, outsourcing technological tasks increases cost. In addition, the explicit agreement and cost of assessment are essential factors for the owners to participate in the ASO's quality project of the Department of Business Development (DBD). Information security management is supplementary factors to an elastic operation and management.

Keywords: Accounting Service Office, Information System, Quality Control

INTRODUCTION

The International Federation of Accountants (IFAC) is the global organization who promotes international standards and guidance for maintaining the high-quality of professional accounting services, not only for the big accounting organizations but also small and medium-sized accounting firms or even accounting service freelancers. Small- and medium-sized practices (SMPs) have been developed by IFAC as the international standard for practitioners in small- and medium-sized entities (SME). Recently, 95 percent of SMEs worldwide drive global economics (IFAC, 2015). In Thailand, the Department of Business Development (DBD) governs the quality of accounting services with "Rules and Conditions for Quality Assurance for Accounting Firms" as announced in May 2015. The certification will be issued to the accounting office which passed the audit by the Management System Certification Institute (Thailand) (MASCI) or other organizations approved by DBD. The International Standard on Quality Control (ISQC) 1 and ISO 9001:2008 Quality Management System have been applied for the audit.

THEORETICAL REVIEW

There has been less academic research regarding the quality measurement through technology of a business process outsourcing (BPO); however, Li and Meissner (2008) presents about this topic. They studied the quality structure of the success of BPOs and segregated their characteristics. Because of technology-dependent service, there have been some features similar to IT outsourcing services such as client expectation, application, client relationship and contract. Briefly in summary, technology builds standardization, integration, automation and innovation to improve reliability, tangibility, conformance, responsiveness, flexibility, security, assurance and empathy.

The performance of a BPO can be measured by information requirements (IR) from customers and information capabilities (IC) from service providers (Mani, Barua, & Whinston, 2010). The IR depends upon the information exchange process among customers and service providers and the sophistication of the process. The more analytical processes are needed, the higher difficulty level in execution and administration. Though, in the accounting services as mentioned above, efficient accounting software can solve the problem of complication, and the input is kept apart from the normal administration process. On the contrary, ICs derive from governance structure, relational processes and information technologies fit to IR. Fitting IC to IR increases the effective performance outcomes based on BPO. Unlike transformational BPO, transactional BPO has lower IR, as described

in the research that results in higher analytical capability needed but lower process's variety and interdependence needed. In other words, the transactional BPO requires improvement in internal operations whereas the transformational BPO requires competitive improvement from high variety and interdependence but low analytical capability. The characteristic of accounting services is in the scope of transactional BPO rather than transformational BPO. As confirmed by the research results of Kadocsa (2006), the information requirement of most small and medium enterprises is for financial and accounting purposes. In the past, all financial and accounting departments played an important role as a cost center of the enterprises but, at present, some of them have been separated as an accounting service to provide financial and accounting activities for not only internal analysis but also external competition to affiliated companies and other clients as a profit center. It can be concluded that this kind of service provides both transactional and transformational characteristics of BPO service because they have to simultaneously and tendentially preserve the enterprise benefits.

For the operation of accounting services, the adoption capability of technology is as important as business, accounting and tax knowledge. Technology leads to the innovation and success of business, as previously researched by Brynjolfsson & Hitt (2000) and Li & Meissner (2008). In addition, there have been theoretical studies in various success factors of technology adoption which conclude about two main important factors, individual characteristics and organizational characteristics adopted for innovation to the enterprises. Thong and Yap (1995) summarized that the success factors for small businesses in adoption of IT are the characteristics of CEOs who are innovative, have IT knowledge and think positively about IT adoption. Moreover, the interesting factors of technology adoption from e-commerce adoption in Thailand, researched by Lertwongsatien and Wongpinunwatana (2003), were reviewed. Results of the research showed that the readiness of IT was a good adopter and implementer of innovation, which aligns with prior studies. Moreover, the enterprises that are in a highly competitive environment, and can accept the risk of cost-benefit of technology investment, have a positive vision towards the implementation of e-commerce and finally decide to invest rather than others.

Most ASOs have at least 1-2 servers in their offices. As classified by Singleton regarding IT level of sophistication, they are at a low level because those servers normally are application servers for bookkeeping and financial statements, and backup servers (some enterprises do not have a backup server but use flash drives or CDROMs to backup all files daily, instead). Moreover, there are limited workstations and IT staff and no remote access is needed. In addition, there are no online transactions and very few are implementing advanced technology such as applications in the cloud. Commonly, the accounting software is commercial off-the-shelf (COTS) applications with necessary embedded internal controls over financial reporting (ICFR) and less manual processes and controls (Singleton, 2010A) and (Singleton, 2010B). Singleton also presented the five areas of IT should be minimally controlled when performing a financial audit, which are IT entity-level controls, change management, information security, backup and recovery, and third-party IT provider. Some risks of material misstatement (RMM) may occur from improper, or lack of, controls against processing financial reporting and data associated with IT. To maintain controls for a small company, physical and logical security should be recommended such as a separate room for the server, neat wiring under a raised floor, a locked wiring cabinet, equipped with protection accessories, limited staff access (logged), good password setting rule, good maintenance of privilege passwords and proper segregation of duties. Other key processes that should be controlled as referred to in Cobit®5 are supplier, asset, configuration, service requests and incident management (Gelbstein, 2015).

CONCRPTUAL FRAMEWORK AND METHODOLOGY

The quality assurance dimension applied as a guideline to assess data collection is depicted in figure 1. Three topics of quality assurance consist of operation (the outer left ring), technology (the outer right ring) and information security (the intersection). The criteria of each topic are enumerated in Table 1.

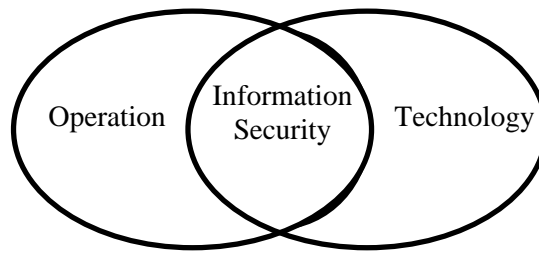


Figure 1. Topics of quality assurance dimension.

Table 1
List of Quality Measurement Factors

Topic	Variable	Quality Measurement Factor
Operation	Office administration	Size and structure of the office
		Experience and background of employee
		Certified Thai Accounting practices
	Client relationship	Relationship with clients
		Proportion of number of employees to number of clients
		Training course
Technology	Management's vision upon technology	Technological experience/background of owner/manager
		Leader in using advanced accounting software or business model
	Technology adoption	Physical facilitates, equipment and application
		Technology outsourcing
		Problem and solution
		Significance of technology to ASO
		Obstacle for change to ASO
Information Security	IT entity-level controls	Formal policy procedure
	Change management	Software procurement/development
	Information security	Physical access control
		User name and password control
		Authorization
		Malware protection
	Backup and recovery	Backup and restore
Third-party IT provider	Logging and review	

This research focuses on operation, technology and information security management in accounting services. The instrument is a type of case study research to penetrate the interesting issues upon the reviewed theories focusing on a target group. This methodology helps to understand the current situation, trends to development and the necessity information security management (Gable, 1994). The proposition in this research is defined as follows:

“Leading in technological strategy contributes to a high service quality.”

The methods used in data collection are in-depth interviews and observations. In summary, ASOs are divided into two groups: certified and non-certified Thai accounting practices. According to regulations, DBD classifies the size of ASOs into only three groups, which are small (15-29 clients), medium (30-49 clients) and large (more than 50 clients) while this research is prudently divided into four groups of ASOs, as shown in Table 2.

Table 2
Size Classification and Abbreviation of ASO

Number of Clients	Size	Abbreviation in research
15 – 30	Small	S
31 – 49	Medium	M
50 – 99	Large	L
More than 100	Extra large	XL

However, DBD pays attention to individuals rather than the ASO; therefore, there is no information on size of the ASO and it was hard to identify the size of ASOs based on existing information. Finally, one DBD officer who was in touch with the ASOs and was in the initial stage of certified Thai accounting practices project, chose two potential certified Thai accounting practices ASOs to be targets. The other two non-certified Thai accounting practices ASOs were also randomly selected by the researcher by considering the different characteristics of the ASOs.

The interview was conducted for about an hour; meanwhile, the observation process of continuing certified Thai accounting practices took a day. Most interviewees are owners or managers who can share operation, vision of technology and information security administration in the ASOs which they have serviced for a long period. The following table shows a summary of the ASOs' interviews.

Table 3
Summary of Interview Section

ASO No.	Participant	Years of service	Method	Duration
S	Owner	11	Face-to-face interview	An hour
L	Owner	11	Face-to-face interview and observation	A day
XL1	Manager	26	Face-to-face interview	An hour
XL2	Owner	21	Face-to-face interview	An hour

DISCUSSION AND CONCLUSION

Operation

Office administration and customer relationship

Personnel nowadays are the most essential factor to provide accounting services because of inputting transactions into an accounting information system or accounting program. Workload per staff influence to turnover is described by Ye and Yaqian's research (2014).

Assumption 1: Workload per staff influences the quality of ASO.

The explicit agreement and standard procedure including communication between ASO and clients; and deliverable time conformed to the research of Ye and Yaqian (2014) are the essential factors for the owners to participate in the ASO's quality project of Department of Business Development (DBD) as well as cost of annual assessment.

Assumption 2: Explicit agreement and standard procedure influences the quality of ASO.

Technology

Management's vision upon technology and technology adoption

The technological experience and background of the owner and the technological skills of the personnel are significant factors to be adjustable to modern technological and systematic pattern of service in order to improve quality. Some of the ASOs not participating in the program may have an obstacle against high investment technology (Schniederjans, Hamaker and Shniederjans, 2010). Outsourcing technological tasks increases cost and is not cost-effective.

Assumption 3: Technological experience and the background of the owner influence the quality of ASO.

The integrity structure of information technology influences the quality of ASO, but it did not support the internal operation of ASOs because they have not applied the integration of systems in the overall office. Nevertheless, the DBD's e-filing system was initiated for a few years in order to integrate into the ASO's system for delivering financial information purpose.

Assumption 4: Information systems influence the operation of ASO.

Information Security

Information security management is supplement factors to an elastic operation and management. As mentioned in Ye and Yaqian's research (2014), the integrity, network security and electricity stability influence the quality of ASOs in term of technology.

Assumption 5: Information security influence technology in ASOs.

In conclusion, from the above discussion of each ASO's quality control topics, the conceptual framework of the research is presented in figure 2.

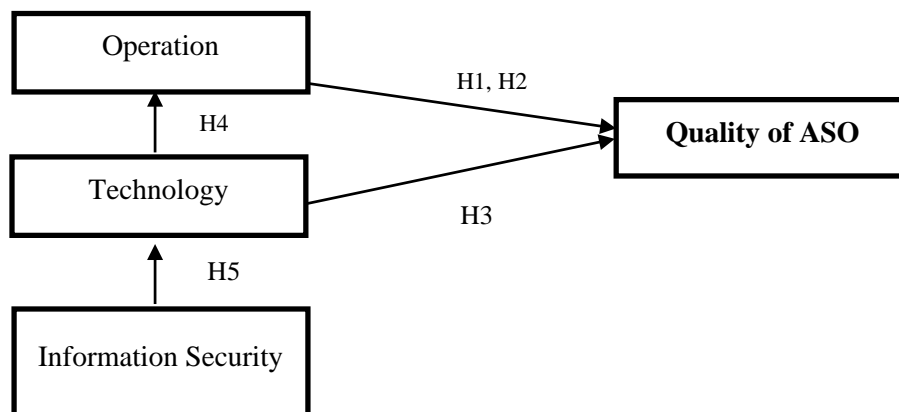


Figure 2. Conceptual framework of the research.

In conclusion, there are three aspects of the results. Firstly, the readiness of ASOs toward modern technological and a systematic pattern of service in order to improve quality, depends on the technological experience and background of the owner; and the technological skills of the personnel. Secondly, the investment regarding outsourcing technological task increases the cost to ASOs; however, this aspect relates to the first aspect, the readiness of ASOs in terms of technological vision of the owner and existing technical staff. Finally, to participate in the ASO's quality project of Department of Business Development (DBD), the explicit agreement and cost of assessment are essential factors for the owners. The information security management is supplementary factors to an elastic operation and management.

FUTURE WORK

The qualitative research was conducted to collect data about the quality factors essentially to ASOs; therefore, various aspects of quantitative research can be further initiated from this research such as the relation of each quality dimension factor to the information system administration as suggested by the five assumptions above as samples.

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KEY ELEMENTS IMPACT ON INVESTOR'S OVERCONFIDENCE

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ABSTRACT

This study focuses on the psychological aspect of the Vietnamese investors and its effect on their investment decision. In particular, we study the overconfidence phenomenon and its possible determinants through a quantitative study. These determinants include academic qualifications, experience, opinions of financial advisors, amount of information disclosed to investors and past performance of the stock. The sample includes 130 randomly selected investors. The results show that Vietnamese investors' decisions are most affected by their experiences, which is estimated to be the only factor has significant relationship to overconfidence.

INTRODUCTION

Behavioral finance is an emerging field that combines the behavioral and psychological aspects with conventional economic and financial theories (Phung, 2008) to explain the irrational behavior of investors. It can affect the security market prices and be used to examine how cognitive and emotional errors influence investor's decision making process. Many researchers attribute the behavioral biases of investors and stock market that anomalies to psychological concepts to be very important in terms of choice of the financial decisions.

Although conventional financial theory states that individual investors are perfectly rational in financial decisions, this point of view is becoming less popular. Many psychologists believe that human are not perfectly rational and human behavior is less governed by rationality than subjective emotions such as love, fear, hate, pleasure and pain. Thus, perfect rationality is only a theoretical concept (Pompian, 2006). In efficient markets, sometimes emotions and psyche influence their decisions, causing them to behave in an irrational way such as representativeness heuristic, self-attribution bias, disposition effect, under-diversification or overconfidence. De Bondt and Thaler (1995) argue that "the key behavioral factor needed to understand the trading puzzle is overconfidence". The existence of overconfidence on financial markets is demonstrated through numerous studies with the main suggestion, besides many other valuable insights, is that overconfidence leads investors to overtrade (De Bondt & Thaler, 1995; Barberis & Thaler, 2003; Statman et al., 2006; Odean, 1998a; Odean 1998b; Gervais & Odean, 2001). Due to aggressive trading behavior, overconfident investors may have to pay significant amount of commissions and hold riskier portfolios than they should tolerate because of their underestimation of risks.

Some researchers associate different levels of overconfidence with gender issues, which accommodates the common belief of men being more confident than women given the same level of knowledge, particularly so in male dominated realms such as finance. Models of investor overconfidence predict that since men are more overconfident than women, men will trade more and perform worse than women (Benos, 1998; Odean, 1998b; Caballé & Sakovics, 2003; Gervais & Odean, 2001; Agnew et al., 2003). Several other factors may potentially affect individuals' overconfidence such as anchoring, previous relevant experience, background, age, and so on. Even though there is an increasing amount of research emerges focusing on the overconfidence of individual investors, this field is still less explored in the emerging markets (Kuo, Kuo, and Zhang, 2007), especially in Vietnam whose market is considerably smaller and less liquid. This lack of liquidity can potentially alter the previous findings of the developed markets (Pisedtasalasai and Gunasekarage, 2007), therefore, it is crucial to conduct a more refined research into investor's attitudes before we can make any claim about overconfidence.

This study focuses on the psychological aspect of the Vietnamese investors and its effect on their investment decision. In particular, the overconfidence phenomenon and its possible determinants are examined through determinants including academic qualifications, past performance of the stock, experience, amount of information disclosed to investors and opinions of financial advisors.

LITERATURE REVIEW

Human nature obviously affects the patterns of behaviour, and overconfidence is one of the psychological factors known to affect daily life. Overconfidence in its simplest way could be defined as “an inopportune belief toward a witnessed reasoning, judgment and the person's cognitive abilities” (Sadi et al., 2011; Odean, 1998a) describes overconfidence as the belief that a trader's information is more precise than it actually is, when people tended to have an unrealistically positive view of themselves, in other words, more confident than correct.

Overconfidence may stem from different reasons. Self-attribution bias is attributing successful outcomes to own skill but blaming unsuccessful outcomes on bad luck as discussed by Miller and Ross (1975). Langer (1975) states that illusion of control is the tendency for people to overestimate their ability to control events that they have no influence over. Unrealistic optimism is simply confidence about the future or successful outcome of something. It is the tendency to take a favourable or hopeful view as discussed by Weinstein (1980) and Kunda (1987). Russo and Schoemaker (1992) defined confirmation bias as the tendency for people to favour information that confirms their arguments, expectations or beliefs. As discussed by Svenson (1981), better than average effect implies that people think they have superior abilities than on average. Hence, individuals tend to believe that they are in the best class among peers. Deaves et al. (2010) argued that a miscalibrated agent assumes lower level of mistake than she/he actually makes.

Different forms of overconfidence reveal that overconfident investors believe that their decisions will prove to be correct and expect higher returns than average. Sometimes investors defined very narrow confidence intervals in their prediction, which is known as “Predication Overconfidence” whereas investors consider themselves very certain in their judgments called “Certainty Overconfidence”. The people susceptible to prediction overconfidence ignore risks associated with their investments while those who are susceptible to certainty overconfidence trade too much and maintain undiversified portfolio (Pompian, 2006). Many overconfident investors perceive themselves better than others and the tendency to think them as above average can be resulted in overconfidence bias that can ultimately lead to excessive trade (Awan et al., 2006), or even possible losses due to their investment decisions. Daniel et al. (1998) define an overconfident investor as one who overestimates the precision of his private information signal, but not of information signals publicly received by all.

During the technological bubble of 1990s investor traded too much in technological stock due to overconfidence. Investors were sure that they will be able to get super return by holding concentrated position in the technological stocks. But when this bubble burst all the gains went down, investors tend to be overconfident in picking stocks. This results in excessive trading volume. Investors who conduct more trades receive lower yields than the average return (Odean, 1998). People due to overconfidence bias overestimate their knowledge, underestimate risk and exaggerate their ability to control events (Baker & Nofsinger, 2002). Investors take bad bets due to overconfidence bias because they overestimate their knowledge and tend to trade excessively than otherwise. Overconfidence leads them to trade high volume. Investors overestimate their self-ability in predicting the trend accurately that result in bad forecasting (Shefrin, 2002). Moreover, the link between overconfidence and trading activity has recent theoretical and empirical literature behind it. In fact, many overconfidence models show that high returns lead investors into being overconfident and as a consequence those investors trade more often. For example, model of Kyle and Wang (1997) has overconfidence as a commitment device for trading intensity, Odean (1998b) and Benos (1998) developed a model in which overconfidence leads to trading while Gervais and Odean (2001) showed that investors whose overconfidence is a function of experience trade more in response to a given signal than less confident investors.

HYPOTHESIS DEVELOPMENT

According to the model of Gervais and Odean (2001), the trader's overconfidence decreases as his experience increases. Consistently, Mann and Locke (2001) found that inexperienced traders and most successful traders are in all probability to be overconfident. In contrast, Kirchler and Maciejovsky (2002) argued that the degree of overconfidence increases as the traders gain more experience. Moreover, in their experiments, Glaser et al. (2003) find that professional traders usually have a higher level of overconfidence than students. Menkhoff et al. (2006) provide a mixed evidence of the issue saying that the results depend on the way we measure experience. The hypothesis formed is given below:

H1: Experience has a positive impact on overconfidence

In the research of "Information effects on decision-making", Porat and Haas (1969) did an experience of 48 graduated business students and finally concluded that more information will result in more accurate levels of goal-setting and decision-making. Moreover, access to information is essential for effective decision making and look at problems associated with insufficient information. Therefore, the hypothesis is that

H2: Disclosure has a positive impact on overconfidence

An experimental study of Redd (2002) explores the influence of advisers on decision making. The findings show that decision makers are highly sensitive to the opinion of advices on their decisions. Specifically, advice influenced information processing and the policy they choose. So we can hypothesize that:

H3: Advisor opinion has a positive impact on overconfidence

According to a research on the relationship between knowledge and experience, Flohr (2009) pointed out the theory of epistemology that influenced and determined the concept of knowledge that was developed by John Locke at the end of the seventeenth century. The theory states that knowledge is solely derived from experience, from the principles that organize and categorize it to the 'facts' that are contained in these categories. Finally, he concludes that knowledge is always a close synthesis of ideas and experience.

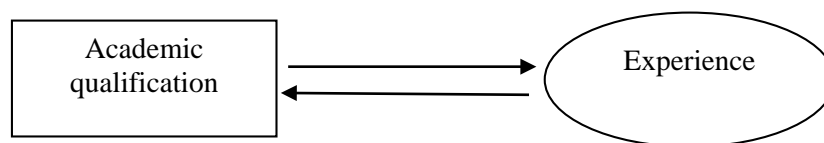


Figure 1. Relationship of academic qualification and experience.
(Birgitt Flohr, 2009)

The hypothesis can be stated that:

H4: Academic qualification and experience has a relationship.

Bogler (1994) found out the impact of past performance toward the people's experience in terms of preference. The data shows that past experience has a strong impact on one's preference.

H5: Past performance has a positive impact on experience

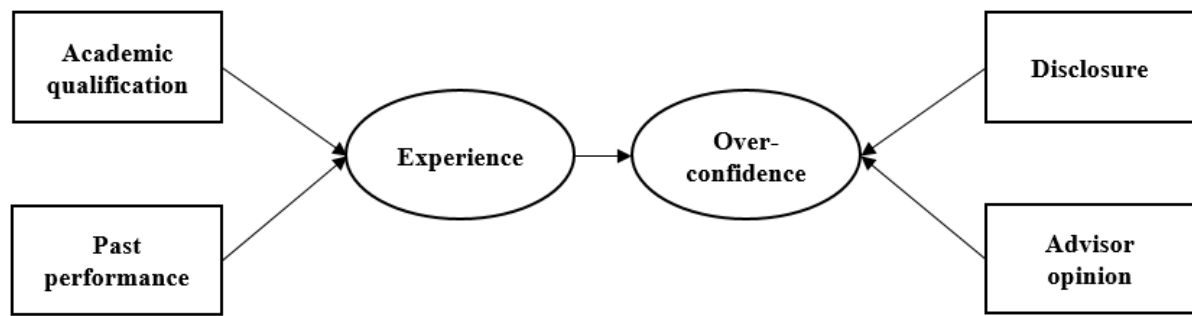


Figure 2. Conceptual framework Conceptual Framework

In this study the model will be applied in order to clarify the relationships between key factors affecting the level of Vietnamese investors' overconfidence. The conceptual framework consists of six independent variables: academic qualification, past performance, experience, overconfidence, disclosure, advisor opinion.

METHODOLOGY

Data collection

The purpose of this research is to investigate the factors affecting Vietnamese investors' overconfidence. The main data set consist of all buy and sell transactions as well as monthly stock only and total portfolio positions (stock, funds, private sector bonds and warrants) of whole Vietnamese individual investors in 2013. The second data set consists of demographic and other information of these investors (age, gender, geographical region of residence, account open date).

Questionnaire items:

This study has used survey as a mode of observation and questionnaire was used as data collection tool. Data were gathered through a questionnaire distributed to investors on trading floor in Vietnamese security market. The sample includes 130 randomly selected investors. The questionnaire consists of two parts as follows:

- Part 1 investigates the demographic characteristics of investors including age, gender, education level, knowledge of financial principles and years of experience in security market. There are four levels of age, including 18-25, 26-35, 36-45, 46 and over. Education factor consists of 7 levels of primary, preparatory bachelor, secondary, diploma, master and PhD. The knowledge in the basis of investment includes 3 levels, either by education level or by experience or both.
- Part 2 consists of 21 questions as a whole they measure overconfidence and the factors that may cause it using 5-likert scale. We focus on the effect of the following factors on overconfidence: experience, disclosure, advisor opinion and also the effect of past performance and academic qualification on experience.

ANALYSIS

For data analysis, reliability, correlation analysis, confirmatory factor analysis (CFA), SEM and multiple group analysis technique are used. All the Cronbach's alpha values in this research ranged from 0.803 to 0.880, indicating an excellent reliability of the measurement scale (George and Mallery, 2003). After the reliability for the scale measurement is tested, Exploratory Factor Analysis (EFA) is run to examine the validity of the construct. In this research, EFA is used as a statistical tool to test the correlation among the variables in the dataset. There is one aspect in Factor Analysis that needs mention in detail includes KMO & Bartlett's Test of Sphericity. KMO & Bartlett's Test of Sphericity is a measure of sampling adequacy that is recommended to check the case to variable ratio for the analysis being conducted. In most academic and business studies, KMO & Bartlett's test plays an important role for accepting the sample adequacy. While the KMO ranges from 0 to 1, the world-over

accepted index is over 0.6. Also, the Bartlett's Test of Sphericity relates to the significance of the study and thereby shows the validity and suitability of the responses collected to the problem being addressed through the study. For Factor Analysis to be recommended suitable, the Bartlett's Test of Sphericity must be less than 0.05.

Table 1
Exploratory Factor Analysis Result

	Cronbach's Alpha	Loading Factor
OC2		0.827
OC5		0.808
OC4	0.877	0.799
OC3		0.780
OC1		0.773
OC6		0.736
AQ1		0.935
AQ2	0.898	0.877
AQ3		0.786
DC2		0.882
DC3	0.862	0.792
DC1		0.786
EX1		0.850
EX2	0.850	0.806
EX3		0.780
AD1		0.876
AD2	0.842	0.796
AD3		0.683
PP3		0.789
PP1	0.809	0.761
PP2		0.757

The value of the KMO Measure of Sampling Adequacy for this set of variables is 0.790, which would be labeled as 'middling'. Since the KMO Measure of Sampling Adequacy meets the minimum criteria, we do not have a problem that requires us to examine the Anti-Image Correlation Matrix. For the "Total Variance Explained" table that shows the eigenvalues, which are the proportion of total variance in all the variables which is accounted for by that factor, the percentage of cumulative is accounting for 62.590 %. This number shows that these factors explain about 60% of data variance. These numbers are acceptable and good for supporting EFA.

Confirmatory factor analysis

Confirmatory Factor Analysis (CFA) is the next step after exploratory factor analysis (EFA) to estimate the structure designated factor loading by testing the fit between the proposed hypothetical framework and the data collected. Specifically, it is used to test whether the consistence between measures of a construct and a researcher's understanding of the nature of that construct (or factor) happens. In order words, the aim of confirmatory factor analysis is to test whether the data fits the hypothesized measurement model.

The table below gives the Goodness-of-fit (GFI) indices and criteria for convergent, discriminant validity and multidimensionality which are based on several references:

Indices	This study results	References
For the sample size < 200, Chi-square\df <3	Chi-square = 1.176 <3	Bentler & Bonet (1980); Carmines & McIver (1981); Bentler 1990
TLI (Turker Lewis Index) >0.9	TLI= 0.971 > 0.9	Bentler & Bonet (1980) Hooper et al. (2008)
CFI (Comparative fit index) > 0.9	CFI= 0.976 > 0.9	Bentler (1990) Hooper et al. (2008)
GFI (Goodness of fit) > 0.8	GFI= 0.875 > 0.8	Hooper et al. (2008)
RMSEA (Root Mean Square Error of Approximation) <= 0.08	RMSEA= 0.037 <0.08	Hooper et al. (2008)

Structural equation modeling SEM analysis

SEM is the final step after conducting EFA and CFA in order to test the relationship between factors. In addition, SEM is also used to test the hypothesis causal relationship in the research model. The adequacy of the model was measured by utilizing the chi-square value, as well as several fit indices. After conducting SEM testing, The criteria for evaluating whether or not SEM fits with data are also same as good-of-fitness criteria for evaluating CFA but it still satisfy the criteria: CFI=0.925 > 0.9; GFI=0.840 > 0.8; RMSEA= 0.067 < 0.08; CMIN/df = 1.570 < 5; TLI=0.912 < 0.9. In summary, goodness-of-fit criteria were met and SEM model had fitness with data.

Correlations

Table below presents correlation statistics of seven key constructs included in this study. All of the correlation coefficients were positive and significant, except for those of structure, control and hierarchy.

	<i>CR</i>	<i>AVE</i>	<i>MSV</i>	<i>MaxR(H)</i>	<i>AD</i>	<i>OC</i>	<i>AQ</i>	<i>EX</i>	<i>PP</i>	<i>DC</i>
<i>AD</i>	0,843	0,642	0,458	0,845	0,801					
<i>OC</i>	0,878	0,545	0,118	0,928	0,236	0,739				
<i>AQ</i>	0,900	0,751	0,023	0,961	-0,026	0,025	0,867			
<i>EX</i>	0,853	0,660	0,458	0,969	0,677	0,343	-0,152	0,813		
<i>PP</i>	0,810	0,587	0,240	0,972	0,381	0,155	0,005	0,290	0,766	
<i>DC</i>	0,865	0,682	0,295	0,977	0,543	0,210	-0,071	0,540	0,490	0,826

Hypothesis Testing

In this section, each hypothesis is restated and the results of structural equation modeling tests are summarized. The sign of the coefficient indicated whether the two variables were moving in the same or opposite direction, and the t-value indicated whether the corresponding path coefficient was significantly different from zero. Coefficients with t-values between +1.96 and -1.96 are considered to be statistically insignificant.

After examining goodness-of-fit of SEM, the results show that the relationships between AD and OC, DC and OC are not significant because p-value of them are greater than 0.1 (p-value of OC ← DC = 0.693, p-value of OC ← AD = 0.794), so these hypotheses are rejected. On the other hand, the p-value of the rest relationships are all lower than 0.1; therefore, there is no evidence to reject the

relationships between PP & EX; AQ & EX and EX & OC. Hypothesized causal relationships in the research model were considered as follow:

Table 2
Hypothesis Testing

Hypotheses	Estimate	t-value	p-value	Result of testing
H1: Experience has a positive impact on overconfidence	0.279	2.851	0.004	Supported
H2: Disclosure has a positive impact on overconfidence	0.050	0.394	0.394	Not supported
H3: Advisor opinion has a positive impact on overconfidence	0.029	0.261	0.794	Not supported
H4: Academic qualification and experience has a relationship.	-0.137	-1.651	0.099	Supported
H5: Past performance has a positive impact on experience	0.378	3.434	***	Supported

Based on the hypothesis testing, the p-value of hypothesis 2 is equal to 0.394 (p-value must be less than 0.05), and the p-value of hypothesis 3 is equal to 0.794, so these hypotheses are not supported. In other words, there is neither relationship between disclosure nor advisor opinion and overconfidence. Hence, these variables are removed from the proposed research model. The remaining hypotheses have acceptable p-value numbers proving the relationship between experience, academic qualification, past performance and investors' overconfidence. Consequently, there are 4 variables remained after testing

The final research model will be demonstrated in the figure below:

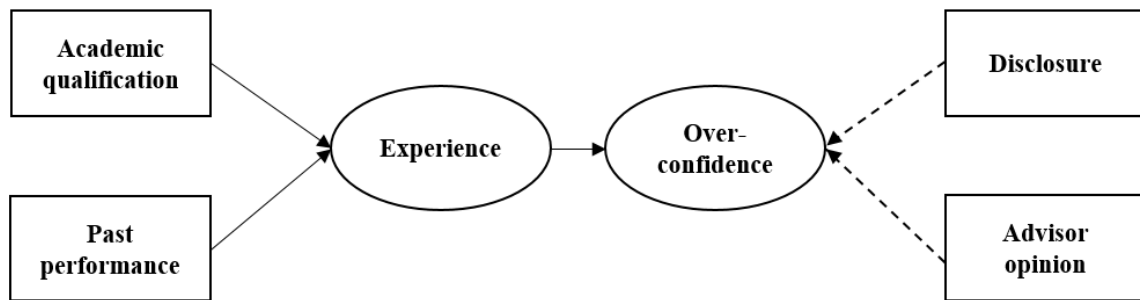


Figure 3. Conceptual framework Conceptual Framework.

Conclusion

This research investigated factors affecting the investor's overconfidence in Vietnam stock market. The study concluded there are a lot of factors that are considered to have effects on investment decision of common investors; however, in Vietnam, the most important factor is experience which is estimated to be the only factor has significant relationship to overconfidence.

In addition, past performance of stock is an important thing for an investor's experience to be a winner in the stock market. Base on the experience in the past, investor can follow the performance of stock and then, repeat the past decision again for the same situation.

Furthermore, this research will build a new body of knowledge with regards to the relationship of academic qualification and experience. For Vietnamese investors, especially for the investor in Ho Chi Minh City, their academic qualification and experience has negative relationship in trading stock. This creates a very interesting finding for the result of this study.

Finally, disclosure which includes news of company, the announcement of M&A or financial reports, actually, does not have significant effect on investor's decision making. Good news of about a company cannot clearly increase their overconfidence in trading company's stock and inversely, some bad news cannot make the investors lost their beliefs in that company. Moreover, advisor opinion seems not very popular in Vietnam, where investors believe in themselves more than the other people. Therefore, the opinion of some experienced traders cannot change the decision of investors.

Implications

Overconfident subjects can be expected to suffer from the winner in trading stock, to the extent that they underestimate the extent of their ignorance, and correspondingly the losses they can incur when trading based on incomplete information. The theoretical analyses of Odean (1998), and Daniel, Hirshleifer, and Subrahmanyam (1998) show that overconfidence can lead to excessively aggressive trading strategies and poor performance. As a result, the contribution of this paper is to find out which psychological traits are important factor that makes bias in decision making of Vietnamese investors and also to show which are the other aspects of that factor. While many previous researchers find the effects of gender, private information, advisor opinion, etc. on the trading activity, that result seems not fit in Vietnamese circumstance which is an emergency market. Moreover, when Vietnamese investors behave irrationally, they may fall prey to overconfidence bias and hence they fail to achieve their investment objectives. The study suggests that their experience in trading stock can be the important evidence to make their decision making go to a difference way. Therefore, it is better to get the knowledge, of the company for example, before making any investment to avoid some unappropriated decisions. Investors can also take help from Information Technology (IT) where they can use different tools and software packages to avoid these investment biases. Investor advisors should also help the investors in this regard and they should organize different training programs to minimize these biases. Investors' advisors should also consider investment biases and personality traits as important factors in designing investment programs so that the desired investment objectives can be achieved.

Limitations and recommendation for further research

There are also some limitations for this research. The major limitation and also difficulty is collecting the data. This study could not be conducted on a very large scale due to the lack of resources and time so it is just in the limit of Ho Chi Minh City. It was very difficult to locate large number of investors because some of them were not willing to respond. The other number of investors may have no motivation to answer the question correctly. In addition, some stock exchanges do not allow to enter for conducting the surveys because of security problem.

Another limitation is the conditions of market can change from time to time so does the response of investors. This research has only focused on overconfidence bias while there are many other investment biases that are not considered in this research and these can be incorporated for further researches in future. This research was based on cross sectional data while the response of the investors can be changed with the passage of time due to the difference in market conditions.

As a result, the recommendation for further research is that the research model should contain more factors and more hypotheses in order to find out the factors that suit with the context of Vietnam to be more sufficient.

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APPENDIX

Questionnaire Table

Dimensions	Code	Statement	Authors
OVER-CONFIDENCE	OC1	I trust my ability to start and manage investments	Dima W. Alrabadi Mohammad A. AL-Gharaibeh Ziad, M. Zurigat (2011)
	OC2	Successful expectations increase my confidence	
	OC3	I often blame the market or the firm when I loose	
	OC4	I feel that my own decisions are often right	
	OC5	I do not hesitate to offer advice of investment to my friends	
	OC6	I use Self-expectations based on my experience in the investment decision to buy or sell a stock.	
EXPERIENCE	EX1	I use Self-expectations based on my experience in the investment decision to buy or sell a stock	
	EX2	Long experience in the ASE increases my confidence in the investment decision	
	EX3	In same situation, I usually decide in the same way	
ACADEMIC QUANLIFICATION	AQ1	I use Self-expectations based on my academic qualifications in the investment decision to buy or sell a stock.	
	AQ2	My academic qualifications increase my confidence of investment decisions	
	AQ3	I can recognize which is good stock base on my academic qualification	
DISCLOSURE	DC1	The degree of disclosure in the published financial reports increases the confidence in the decision to buy the stock	
	DC2	Analysis of the published financial statements of companies increases my confidence in the stock	
	DC3	News about the company in the areas of media(newspapers, magazines) affect my investment decision	
PAST PERFORMANCE	PP1	Successful stock performance in the past, positively affect my confidence when I buy it	
	PP2	The current performance of the stock is an indicator for future performance	
	PP3	I only buy good stock and avoid the stock which is decreasing in price	
ADVISOR OPINION	AD1	Getting the tips from experienced traders increases the trust in the investment decision when buying or selling stocks	
	AD2	Advices from professionals increase the trust in the investment decision when buying or selling stocks	
	AD3	I believe in the opinion of stock exchange advisors from stock companies	Steven b. Redd (2002)

SLEEPING WITH ENEMY: HOW FIRM-SPECIFIC KNOWLEDGE IS LEARNED AND SHARED ACROSS FIRMS IN COOPETITIVE RELATIONSHIP

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ABSTRACT

Nowadays, strategic cooperation between firms is increasingly important in business arena because business environment is more unstable and unpredictable. Cooperation between firms in the same competition currently is one of the most interesting ways to help firms to achieve competitive advantage over others in the same industry. This study examines how firm-specific knowledge is learned and shared between firms in coopetitive relationship explaining through the foundation of resource based view and resource dependence theory. The results found that strategic similarity does not promote firms being in coopetitive relationship to share knowledge which help firms to acquire competitive advantage while strategic complementarity does. However, board of director Interlock is able to alleviate the tension between coopetitive firms with strategic similarity.

1. INTRODUCTION

Nowadays, most of firms in several industries strive to survive in an increasingly competitive and rapidly changing business environment. Sherer (2003) explains that only having a superior product or resource advantage is not enough to guarantee firm's sustainable advantage. The ability of firm to compete may highly depend on the ability of firm to cooperate (Morris et al., 2007). For this reason, the cooperation with competitors is one of the newly interesting approaches to enhance the competitive advantage of firms in volatile business environment. Coopetition is the word to explain the cooperation between competitors. This paradoxical relationship emerges when two firms cooperate in some activities such as in R&D process or a strategic alliance while competing with each other simultaneously (Bengtsson & Kock, 2000). Bengtsson and Kock (2000) also describe that coopetitive relationships are quite complex because they consist of completely different logic which on the one hand they have to compete each other due to conflicting interests and on the other hand due to common interests they intend to be friendly. Therefore, cooperative relationship between competitors should be managed and balanced in the proper way. There are several benefits from this kind of relationship. Garcia and Velasco (2002) found that cooperation with competitors results in positive effect on performance of particular activities, coordination of product lines and technological diversity. Moreover, coopetition helps firm to access to external knowledge source (Spence, Coles, & Harris, 2001). Also, Bengtsson and Kock (2000) confirm that coopetition is able to serve as a mechanism for organizational learning particularly as it relates to core competencies of competitors.

Knowledge is viewed as a source of a competitive advantage for a firm which possesses it (Lorange, 1996; Van Der Bij et al., 2003; Yang & Wu, 2008). In other words, knowledge is the most strategically important resource or capability of a firm. In particular, knowledge is difficult to imitate and transfer because it is embedded in the organization culture, routines, system and employees which require special methods to transfer and share. The existing literature places the attention on two aspects of knowledge sharing including cooperative and competitive benefits (Tsai, 2002). The benefit of knowledge sharing in cooperative relationship is unsealed in the aspect of sharing for achieving common interest as well as mutual benefits contrasted with the objective of sharing knowledge in competitive relationship which mainly focuses on making own benefit over partners (Khanna & Gulati, 1998). A firm which possesses specific knowledge on the other hands is likely to gain competitive advantage over others by protecting own unique positions and might be lost those positions if decide sharing knowledge. On the other hands, this is like a dilemma situation for knowledge owner because basically effective knowledge transfer facilitates innovation which is mainly source of firms' competitive advantage (Yang & Wu, 2008). This dilemma situation is like the combined characteristic of knowledge in role of both "source of" and "barrier to" to innovation

(Dougherty, 1992). In other words, the perceived competitive value of knowledge in collaborative contexts makes individual firm reserved in sharing core knowledge, which is important for innovation to enhance firms' competitive advantage. In conclusion, the knowledge shared between competition results in shaping competitive advantage among firms in cooperative relationship. However, they all have to share knowledge across their partners without destroying strategic position of their own organizations.

In the past, most of empirical researches on strategic alliance have mainly focused on inter-firm relationships as either cooperative or competitive. However, nowadays the interplay between cooperation and competition is extremely more complex than being considered in prior strategic alliance researches. However, little research focuses on strategic alliance in the sense that firms simultaneously compete and collaborate with competitor (Brandenburger & Nalebuff, 1996). Furthermore, the attention on studying on how knowledge sharing as the heart of strategic alliance process is shaped in the cooperative situation is very rare. Thus, this paper has the attention to study the antecedents underlying the formation of knowledge sharing between competitors which decide to be in cooperation. In this paper, we propose that although resource similarity tends to promote knowledge sharing between partners in cooperation (Darr and Kurtzberg, 2002), it might be not applicable for firms in cooperative relationship. We argue that instead of strategic similarity, strategic complementarity helps to boost knowledge sharing across cooperative firms. Also, the factor alleviating the dilemma situation for firms to whether share knowledge or not like Board of Director Interlock between cooperative firms is demonstrated. These explored phenomena is explained by applying the foundation of Resource based view and Resource dependency theory.

In sum, this paper provides three key contributions. Firstly, this paper integrates stream of cooperative research with knowledge research area to explore the behavior of transferring knowledge between cooperative firms. Secondly, this paper disputes the prior notion that describes the important of strategic fit in knowledge transfer. Lastly, the factor which reconciles the tension between the resources based view and resource dependency in cooperative relationship is also exposed.

We start the paper by defining cooperative definition, clarifying type of knowledge transfer being considered in this paper and reviewing prior related literature in cooperative and knowledge management stream. Further, the hypothesis relating to antecedents underlying knowledge sharing across cooperative firms using foundation of Resource based view and Resource dependency theory is formulated. We then apply statistic technic to analyze data collected from potential sample and finally we explain and conclude the results of knowledge sharing behavior across cooperative relationship as well as suggesting how to implementation for real business practice.

2. LITERATURE REVIEW

Cooperation

Because of high competitive and rapid change in today business environment, it is difficult to avoid engaging in cooperation with competitors to optimize the benefit of cooperation and competition (Lechner & Leyronas, 2009). Cooperation is about balancing between cooperation and competition, and cooperation is not anticompetitive (Hunt, 1997). Luo (2005) suggest that cooperation occurs when two firms cooperate in some business activities and compete with each other at the same time. Cooperation is also a situation where competitors simultaneously cooperate and compete with each other to create value (Bengtsson & Kock, 1999; Walley, 2007). This type of cooperation can create value by increasing customer service and creating expansion in market which firms on its own cannot achieve. Bengtsson and Kock (2009) also discloses that the success of cooperation is depended on trust and mutuality between partner contrasting with competition which the success is based on individual behavior to maximize its own benefits. Currently, organizations which are commonly competing with each other are increasing in seeking to cooperative relationship to gain long term competitive advantage (Rademakers & McKinight, 1998). There are variously prior researches adapting the concept of cooperation in several industries including e-commerce(Albert, 1999), technology (Chin, Chan, and Lam 2008; Webster, 1992), tourism (Grangsjö, 2003; Kyllanen and Rusko, 2011), retailing (Kotzab and Teller, 2003; Martinelli and Sparks, 2003), automobile (Dagnino

and Padula, 2002), airline (Nason, 2009), forestry (Rusko, 2011), financial service (Martinelli and Sparks, 2003), pharmaceuticals (Erikson, 2008), petrochemicals (Tsai, 2002) and furniture as a small business (Thomason, Simendinger, & Kiernan, 2013). However, the industry which coopeitition concept is mostly applied is hightech industry (Brandenburger & Nalebuff, 1996). They all tend to use coopeitition as a strategy to achieve superior firm's performance and maximize resource in the long term (Walley, 2007; Luo, 2005; Cringely, 2002; Albert, 1999; Peline, 1998). Most of all prior researches have the tendency to focus on the determinants influencing on successful coopeitition. For instant, at the individual-level the perception of trustworthiness and is confirmed as an important factor leading to success in coopeitition. Previous research suggests that coopeititive organizations with a greater number of trusting relationships between managers are better able to engage in successful coopeititive relationship (Johnston et al., 2004; McDowell, Harris, & Zhang, 2009; Thomason et al., 2013). As for firm-level determinant of successful coopeitition, Morris et al. (2007) suggests that mutual benefit and commitment between coopeititive firm result in successful cooperation measured by firm performance. By doing this, several previous researches study on the determinants influencing on successful cooperation, while there are few prior studies focusing on post process of coopeititive relationship. Accordingly, this paper intends to study the process after two firms have mutual agreement to be in coopeititive relationship particularly what the factors allows knowledge can be shared and learned effectively across firms in order to accomplish competitive advantage from coopeititive relationship as knowledge which is the most important resource of each firm.

Knowledge-based resource and firm competitive advantage

The resource-based view considers firms as bundles of heterogeneous resources which include tangible and intangible, resources and operational process and products (Amit & Schoemaker, 1993). In other words, resources of organization are able to categorize into two type namely property-based resources and knowledge-based resources (Miller & Shamsie, 1996). Kogut and Zander (1992) explain that the most important resource of the firm is knowledge. Also, Lippman and Rumelt (1982) confirm that knowledge is the best barrier that helps firm to protect its valuable resources from imitation to gain long-term competitive advantage. Competitors cannot imitate knowledge because normally knowledge is complex and hard to understand completely. Knowledge-based resources are often about the set of skills which involves with technic, creativity and collaboration (Fiol, 1991; Hall, 1993; Itami, 1987; Lado & Wilson, 1994). Miller and Shamsi (1996) reveal that knowledge-based resource will distinctly benefit for firm in volatile as well as unpredictable environment. However, the protection of knowledge barrier is not perfect because it is possible for competitors to develop similar knowledge but normally this takes long time which allow firm to strengthen further knowledge and use it in different ways (Lado & Wilson, 1994).

Andrue et al. (2008) argue that due to environmental trends nowadays such as globalization, technological evolution and deregulation, competitive structure of markets is extremely changing. The effectiveness of traditional sources of firm competitive advantage is being eroded because firm competitive advantage based on physical, financial or even technological assets are less sustainable. These assets are becoming easier to be mobile and accessible across firms in open markets, so firms are necessary to develop distinctive capabilities that are difficult to imitate in own way of doing thing. Such way of developing unique capability always depends on the development of abilities, knowledge and skills coordinated and organized in the way which firm can be distinctive. Drucker (1993) propose that developing idiosyncratic and context-specific knowledge which provides firm operating in distinctive ways is very important. Idiosyncratic knowledge is generally difficult to imitate because firms cannot be derived it from open markets but it can be created inside each firm by requiring time, effort, commitment and specific context to prevent it from imitation. This is normally why sustainable competitive advantage is potentially given by idiosyncratic knowledge. In other words, because this knowledge results from particular accumulation of organizational experience, it tends to be unique due to path-dependent and context-dependent characteristic. This makes rivals difficult to fully understand what is exactly the source of firm competitive advantage and this also require high cost in case they want to duplicate specific context and path (Teece et al., 1997). From this reason, knowledge with a high level of idiosyncrasy is very valuable for firms to acquire sustainable competitive advantage. Thus, it is not all kind of that provide firm sustainable competitive advantage.

Firm-Specific and General purpose knowledge

Dyer and Singh (1998) suggest that knowledge sharing is one of the most important sources of competitive advantage acquired from external relationship. Wang, He and Mahoney (2007) explains that firm knowledge is able to be broadly classified into firm-specific knowledge and general purpose knowledge. Firm-specific knowledge is the knowledge which is closely related to a firm's current knowledge base highly embedded in its specific business setting (Pavitt, 1991). Firm-specific knowledge plays a fundamental role in the way to create and deploy new knowledge which in the unique way. According to firm specific resource definition, firm-specific resource is the resources that are not perfectly mobile and are not tradable outside of a firm (Dierickx and Cool, 1989). This characteristic of firm-specific resource makes it more difficult for competitor to replicate which make firm gain competitive advantage. Among the kinds of firm-specific resources, firm-specific knowledge has the greatest potential to serve as a source of sustainable competitive advantage of a firm in turbulent business environment nowadays. Also, resource-based view suggests that accumulating and deploying firm-specific knowledge provides firm to obtain sustainable competitive advantage and economic rent (Barney, 1991) because it is extremely difficult to fully understand how firm manage knowledge and organizational routine.

By contrast, general purpose knowledge is less specialized to particular firm setting and thus more easily to be tradable in open markets (Wang, He, & Mahoney, 2007). For this reason, normally this kind of knowledge is not the source of firm sustainable competitive advantage. Moreover, Becker (1962) explains that the important characteristic of general purpose knowledge is that its market value is approximately equal to its value within a firm. For example, the knowledge can be traded in open markets, and it generally tends to be rather technical and explicit, which makes it relatively easy to acquire. In other words, this knowledge type is able to only provide firm to acquire standard feature or capability to offer threshold product or service in the marketplace to potential clients as equal as general competitors (Andreu et al., 2008).

Coopetitive Knowledge Sharing

Previous researches on Coopetitive Knowledge Sharing are classified into two groups including "Coopetitive Knowledge Sharing" and "Knowledge Management Literature" and "Coopetitive Knowledge Sharing" and "organisational management literature" (Ghobadi & D'Ambra, 2011).

The extant literatures treat coopetition with two dimension including cooperation and competition (Tsai, 2002; Luo et al., 2006; Lin, 2007; Lin et al., 2010). For example, Tsai (2002) investigates the simultaneous existing of cooperation and competition on market share across functional units' representatives. The empirical result is that knowledge sharing behavior can be driven by the synergic impact of cooperation and competition. This is because each functional unit has a strong intension to understand other functional unit in order to benchmark themselves and improve their own performance. For this reason, competition can generate positive outcome (Anderson & Narus, 1990; Lado et al., 1997; Goncalo et al., 2010). According to another one study, Lin (2007) tries to understand the relationship between coopetition across functional units and New Product Development (NPD) performance. The empirical results show that there is a positive relationship between cooperation and NPD performance, which is mediated by knowledge management processes. Also, positive relationship occurs between competition across functional units and New Product Development (NPD) performance but the mediating role of knowledge management is not confirmed. Lin et al. (2010) also find that job effectiveness is influenced by knowledge sharing behavior, and knowledge sharing behavior is directly influence by coopetitive behavior. To sum up, three mentioned literature (Tsai (2002), Lin (2007), and Lin et al., (2010)) conceptualize coopetition knowledge sharing into three dimension including cooperation, competition and knowledge sharing. However, the critical limitation of all mentioned literatures is that the study in knowledge sharing under coopetitive relationship mostly focus on the extent and frequency of knowledge sharing rather than the knowledge quality being shared. Moreover, there are rarely prior empirical mentioned researches being interested in understanding the behavior of sharing knowledge among coopetitive relationship in inter-organizational level. For this reason, this study will focus on the factors influencing

cooperation in effective learning and sharing critical knowledge which is strategic resource allowing firms to gain competitive advantage from their competitive relationship.

Coopetition Knowledge sharing in knowledge management

Knowledge management literature has mainly studied about the impact of factors like organizational culture, management support, interpersonal relationships, IT infrastructure, motivation, prior experience, and knowledge ambiguity influencing on knowledge sharing behavior (Hendriks, 1999; Lee & Al-Hawamdeh, 2002; Bock et al., 2005). Knowledge sharing is explained as set of behavior of transferring knowledge which comprise of several components including actors, knowledge characteristics, knowledge transfer channel, organizational concerns, and environmental climate (Lee & Al-Hawamdeh, 2002; Yang & Chen, 2007). There are three economic theories which being used often to explain about knowledge sharing behavior like 1.) Resource-based view theory 2.) Transaction cost theory and 3.) Agency theory (Shin, 2004). As for Resource-based theory, Barney and clack (2007) explain that growth and performance of a firm mainly depend on firm's resource and capabilities. Shin (2004) also elaborates that different firm's resources result in different outcome, so rare and inimitable resources can help firm to gain competitive advantage over its competitors. For this reason, knowledge as the most important firm's resource with being difficult to imitate is also able to influence firm to obtain sustainable competitive advantage. A firm is able to develop and renew its organizational knowledge through learning (Kogut & Zander, 1992). Thus, learning and sharing knowledge is the imperative way to improve firm's competitive advantage. Apart from Resource-based theory, Resource dependency theory is another strategic management theory applied to explain knowledge sharing behavior. According to Pfeffer (1987), the resource dependence perspective is explained in term of the fundamental behavior of organization to understand interorganizational relationships which manager has to reduce environmental uncertainty and dependence on others by attempting to diminish other's power and trying to increase own power over others simultaneously. In other words, the firms which heavily depend on environments including their partners and competitors should formulate some strategies to cope with these situations (Pfeffer & Salancik, 1978). This theory focuses on building organizational competitive advantages through trying to maintain favorable power-dependence relationships among organization's value chain including customers, suppliers or even competitors (Bhatti, 2011). Emerson (1962) who is the origin of the story of exchange-based power in resource dependence theory elaborates that the power of A over B comes from control of resources which B values but cannot be available elsewhere. However, power is not zero-sum game because A and B is able to depend on each other at the same time in case B has some resources that are very rare and A needs these resources. There are some previous studies applying this theory to explain the behavior of firm's cooperation and inter-firm's knowledge sharing. To analyze firm cooperation behavior, Bhatti (2011) explains that resource dependency theory can be linked to firm's environmental constraints that are uncertain and unstable. Therefore, firms try to cope with this unpredictable environment by attempting to control a favorable resource through cooperation in order to guarantee firm's competitive position. Also, in the perspective of resource dependency, inter-organizational cooperation allows firms to take advantage of complementary asset both tangible resource and intangible resource like knowledge and create newly outstanding firm's capability (Bhatti, 2011). From prior mentioned literatures of strategic management applying to study knowledge transfer behavior in cooperation like RBV and RDT, there is the relationship between them that according to Barney (1991) resources which are valuable, rare, inimitable and non-substitutable can lead firms to achieve sustainable competitive advantages, so cooperation with others firm is the potential way to acquire and control critical resources as well as sharing firm specific knowledge to create common unique value among cooperative firms which sometime only single firm cannot do it. However, although several previous literatures try to apply RBV and RDT to understand the organization's cooperation behavior which knowledge sharing and learning are generally involved, unfortunately, the study that apply RBV and RDT to attempt to elaborate knowledge sharing and learning via cooperation behavior between competitors is very rare. Therefore, this study has the intension to work for this deficient area.

In sum, after reviewing prior literatures in the area of knowledge management under coopetitive situation, we found that the study is still limited. Most of researches in knowledge management are

mainly interested in studying in sharing and transferring general type of knowledge instead of focusing on sharing and transferring knowledge type that has the potential to lead firm achieve sustainable competitive advantage. Also, Ghobadi and D'Ambra (2011) confirm that most of current researches in knowledge literature is interested in the occurrence of knowledge sharing rather than focusing on the occurrence of transferring required and useful knowledge. Furthermore, we found that prior researches in this stream heavily focus on knowledge transferring under the cooperative relationship. Little researches try to explain the factors influencing knowledge sharing under the cooperative situation. This is confirmed by Ghobadi and D'Ambra (2011) which state that there are few and relatively limited empirical models that explain the knowledge sharing in cooperative phenomenon. According to these limitations, the discovery from this paper is able to fill the gap for knowledge management literature especially in the area of knowledge sharing in cooperative relationship which nowadays is still unclear.

3. THEORY AND HYPOTHESES

Knowledge transfer and knowledge sharing is considered as an event through which one organization learns from the experience of another. Organizational learning can be improved through knowledge sharing (Darr & Kurtzberg, 2000). There are many studies showing that a firm might improve innovative capability and new practices which can be absorbed into the routine and culture of firm by learning the skills and experience of others through knowledge transfer (Pennings and Harianto, 1992) both within organization and between organizations (Garud & Nayyar, 1994; Gilbert & Cordey-Hayes, 1996; Szulanski, 1996). Also, valuable knowledge can help firm to enrich the effectiveness of a firm's strategy implementation. Even though there are various ways to assort types of knowledge, this paper has intention to focus on sharing particularly **Firm-Specific knowledge**. Firm-specific resource is the resources that are not perfectly mobile and are not tradable outside of a firm (Dierickx and Cool, 1989) and help to guides firms to manage other firm's resource to gain distinctive value as well as enhancing firm's capability for being absorptive new knowledge quickly. For this reason, cooperation between organizations will be also successful when Firm-Specific knowledge is transferred across firms. Because the characteristic of firm-specific resource as mentioned earlier, firms are being in cooperative relationships are able to share knowledge which is the exactly source of competitive advantage and also cannot be provided in open market with each other. Moreover, **General knowledge** (contrasted with Firm-Specific knowledge) which is the knowledge that can be provided in open market and every firms are able to acquire as threshold resource to compete in market, is considered for this paper as well. To sum up, although knowledge transfer can be occurred either within firm or between firms and there are many kinds of knowledge, this study will focus on sharing and learning of firm-specific knowledge from the skills and experience of others in cooperative context.

Strategic Similarity

Several prior researches reveals that the knowledge is more likely to be transferred between individuals who have similar attitude as well as between firms that face similar problems in the past (Ounjian and Bryan, 1987) and that have similar experience (Cohen & Levinthal, 1990). Darr and Kurtzberg (2002) explain that firm's similarity can be divided into different three dimensions including strategic similarity, customer similarity and geographic similarity. Previous researches show that the similarity in strategy has the greatest impact on knowledge sharing between firms (Darr & Kurtzberg, 2002). Strategic similarity is viewed as the construct of fit with product market, resource, and supply chain related similarity according to applying the resource based view perspective (Pehrsson, 2006; Stimpert & Duhaime, 1997). Research on strategic alliances (Simomnin, 1999) and strategic groups (Dranove, Peteraf, & Shanley, 1998) discloses that firms with similar business strategies tend to be better aligned to transfer knowledge across organizational boundaries. All of this previous mentioned sentence supported by resource based view perspective (RBV), Barney and Clark (2007) explain that firms are able to achieve competitive advantage through the combination and accumulation of resource, asset and capability in nature. Each set of resource combination results in a particular rent-generating potential which normally depends on management capabilities (Tallman, 2005). The resources helping firms gain sustainable competitive advantage have to be valuable, rare, inimitable and non-substitutable as well as not easy to transfer across firms

and this type of resource is called strategic resource (Barney, 1991). For this reason, several firms attempt to acquire strategic resource and as discussed earlier knowledge is confirmed as the most critical firm's resource (Kogut & Zander, 1992). Therefore, most of firms try to be given such a knowledge which they are deficient through cooperation with other firms. However, as for transferring knowledge with competitors, most of firms tend to be reluctant to share firm's knowledge among their competitors. This is explained by Resource dependency theory that generally firms place the importance for the issue of control power-dependence relationship by maintaining favorable power-dependence relationship to their buyers, suppliers especially competitors within business value chain (Peffer, 1972). In other words, firms don't want to be dependent on others in order to acquire firm's strategic resource like knowledge to create unique value proposition of the firm because being dependent on others particularly direct competitor makes firm diminish their power to cope with unpredictable business environment. However, this dilemma situation tends to be alleviated when firms are competing each other making decision to be in cooperation relationship in some aspect. By doing this, some resource and knowledge have tendency to be transferred across two firms. However, this study will propose that incase firms which are in cooperative relationship have strategic similarity, only general knowledge and resources are going to be shared with each other because they also would be reluctant to transfer critical knowledge like firm-specific knowledge as source of firm's competitive advantage when cooperating with competitors having similarity in many aspects. In other words, firms with similar strategy basically are in same direct competition, so there is no firm wants to be dependent on its direct competitors. Actually, cooperation will occur when two firm cooperate in some business activities while competing with each other in other aspects (Luo, 2005). To sum up, firms with strategic similarity will share only general knowledge with each other under cooperative relationships.

Hypothesis 1: The higher degree of strategic similarity among cooperative firms, the higher proportion of general knowledge transfer

Strategic complementarity

Complementarity is defined as different characteristics that are independent and mutually supportive (Tanriverdi & Venkatraman, 2005; Wang & Zajac, 2007). According to resource based perspective, resource deployment and exploitation obtains benefits from complementary differences (Kim & Finkelstein, 2009; Sarkar et al., 2001). Most of previous research paper in strategic complementarity stream mainly focus on top management team complement complementarity (Krishnan, Miller, and Judge, 1997), technological complement (Makri, Hitt, and Lane, 2010), strategic and market complementarity (Wang & Zajac, 2007). We will explain strategic complementarity through RBV and RDT. According to resource based view perspective, firm's performance is a result of firm specific result and capabilities (Barney, 1991). In other words, Barney (1991) states that if all firms have same resource, there is no difference in term of firm's profitability because same strategy will be implemented by all firms in industry. However, in the reality each firm has own different resource and capability, so firms attempt to search for new resource and capabilities to keep firm in competitive position among fast changing business environment. Accordingly, cooperation between firms is another alternative way to acquire shortcoming valuable resource from their strategic complementarity partners. Furthermore, in term of cooperative relationship resource dependence theory is also able to explain resource (knowledge) transfer behavior among competitors with strategic complementarity. Thompson (1967) explains that Resource dependence theory (RDT) views the market environment as a set of organization that engages in exchanging resource with one another. In other words, firms engage with resource exchange with others because no one firm possesses a sufficient resource including knowledge needed. Competitors with being in cooperation with strategic complementarity normally have own strategic resource and knowledge that each firm need from their partners, so competitors tend to depend on each other to exchange resource and firm's knowledge that are valuable and cannot acquire from open market. Also, cooperation allows firms to take advantage of complementary asset both tangible resource and intangible resource like knowledge and create newly outstanding firm's capability (Bhatti, 2011). By doing this, firms are in cooperative relationship with strategic complementarity with each other have tendency to share firm-specific knowledge with other because

normally those firms are not in direct competition. Accordingly, they can fully cooperate in some business activities while competing in other aspects not for several aspects like competitors with strategic similarity.

Hypothesis 2: The higher degree of strategic complementarity among cooperative firms, the higher proportion of firm-specific knowledge transfer

Board of Director Interlock

Hillman and Dalziel (2003) disclose that there are two important functions of board of directors including monitoring management on behalf of shareholders and providing resource to organization and these two functions relate to firm performance (Korn & Ferry, 1999). Pfeffer and Slancok (1978) explain that as for function of providing resource, there are four characteristics of board of director leading to promote firm performance like providing advice, providing firm legitimacy and reputation, providing communication channels and conduits of information between firm and external organization, and helping firm to acquire resource from important element outside the firm. For example, executive directors' external tie facilitates firms to enhance performance by accessing to strategic information and opportunities (Pfeffer, 1991). Also, most of Firms often invite important stakeholders like customer or supplier to be in board of director interlock in order to create more commitment and involvement from these stakeholders (Hillman et al., 2001).

Board of Director Interlock is acknowledged when a board member sits on more than one organization's board. Normally, Corporate's board is connected in case one board member sits on another corporate's board, because the information from one firms can be transferred to another firm making two firms understand each other better. By doing this, in the cooperation perspective between firms interlocking directorates between firm and customers or suppliers are able to promote the mutual benefits among them. Burt (1980) finds that interlocking directorates play an important role to diffuse information across firms. For this reason, board of director interlock might alleviate tension between firms in cooperative relationship by sharing and communicating information to create trust and commitment to create mutual benefits. Accordingly, cooperative firms tend to be willing to transfer more strategic knowledge with each other.

Hypothesis 3: The negative relationship between strategic similarity among cooperative firms and proportion of firm-specific knowledge transfer is weaker when the proportion of director interlocks is high

4. RESEARCH METHODOLOGY

Sample and data

The sample consists of firms which operate in high technology sectors which in Thailand such as software development, information technology and telecommunications industry. This sector are high competitive, and knowledge is the crucial resource to drive business innovation for achieving commercial success (Wilson, Ashton, & Egan, 1980). Also, technological innovation is viewed as a priority for most of firms in this sector, so firm knowledge as a main source of creating innovation is very important. Data of each organization plans to be mainly collected from company annual report and Department of Business Development, Ministry of commerce Thailand. In order explore firm-specific knowledge transfer practices, quantitative technics will be applied in this study via using survey as well as interview in part of assessing strategic similarity and complementarity. The key informants were carefully chosen to ensure that they had the knowledge and background to complete the questionnaire in a thoughtful manner.

Dependent Variable

Our dependent variable is the proportion of firm-specific knowledge transfer which is reported the proportion of firm-specific knowledge that a respondent transferred to competitors. We plans to divide knowledge into two type like firm-specific knowledge and general purpose knowledge and use survey asking respondents for their past knowledge sharing of each type of knowledge measured by using 6-point Likert scale (1 don't share any kind of knowledge, 2 share only general knowledge,

3 share more general knowledge than firm-specific knowledge 4 share general knowledge as equal as firm-specific knowledge, 5 share more firm-specific knowledge than general knowledge and 6 share only firm-specific knowledge). To enable us to compute results for our dependent variable we marks responses to the two different type of knowledge with dummy variables.

Independent variable

Strategic similarity

Normally, each firm formulates own goals and objectives which will be succeeded through preferred strategy (Altunbas & Marques, 2004). This paper will use resource allocation pattern as indicators of strategies that firms tend to pursue following several previous researches (Dess & Davis, 1984 ; Zajac & Shortell, 1989). For example, firms which intend to pursue product or service innovation strategy generally intensively invest in research and development activities (Porter, 1980). In contrast, firms which undertake low cost strategy try to operate business activities with lower cost than others. In sum, the concept of strategic similarity used in this paper assumes that strategic direction of firms can be seen from the resource allocation pattern that management makes decision. Accordingly, if two firms show similar resource allocation patterns, they can be considered as strategic similarity (Harrison et al., 1991). Resource allocation pattern is able to be measured from their balance-sheet data, across a variety of strategically relevant characteristics such as risk profile, marketing expenditure or efficiency.

Strategic complementarity

Most previous researches study strategic complementarity in more narrow terms as top management team, technological, strategic, and market or product complementarity. Moreover, in this study, we also follow the complementarity concept of Bauer (2014) to consider complementarity in way of product market, resource-related, and value chain issues. We also follow the constructs and items developed by Pehrsson (2006) to assess strategic complementarity by changing some words to be applicable. Strategic complementarity is a second order construct consisting of product market (measured with six items), resource-related dimensions (measured with six items), management team capabilities (measured with six items) and technological perspective (measured with six items) as well as value chain attributes (measured with four items). Strategic complementarity is assessed on a 5-point scale (Bauer et al., 2014).

Moderating variable

Board of Director Interlock

Burt (1980) explains that interlocking directorates play significant role in enhancing communication across firms. For this reason, we apply interlocking directorates to be considered as moderating variable measured by the number of board member who take a position in both firms simultaneously that are being in cooperative relationship. These board members help to disseminate information between firms to create mutual trust. By this reason, board of director interlock is able to alleviate tension between competitive firms in order to share knowledge which has potential to create competitive advantage.

Control Variables

We included several control variables which are identified as important from previous literature besides the above key variables. Firm size is identified as control variable proxied by the natural logarithm of each firm's total asset from prior five years (Wang, 2014). Firm age calculated since each firm's establishment will be also controlled. Prior performance based on an accounting measure, ROA, is also included in control variable for the effect of previous performance on current performance. As a firm's capital structure is generally thought to have an influence on its financial performance, we also control for financial leverage, measured as total debt over total assets. In addition, variations across industries were controlled at the four-digit SIC level (Wang, 2014). Lastly, all firms are observed in this study have to operate in high technology sectors in Thailand.

5. EXPECTED RESULTS AND DISCUSSION

Cooperation between competitors is increasingly interested due to the faster pace of business environment and more competitive business arena. Many firms which is competing each other have chosen to work together to achieve mutual goals. This is quite new direction of business strategy. When a firm make a decision to be in cooperative relationships with its competitors, how knowledge as a critical resource of firms is shared across firms is very important. The expected results of this study are that the higher degree of strategic similarity between cooperative firms the number of firm-specific knowledge shared is less. In other word, cooperative firms which have similar firm's strategy is reluctant to share firm-specific knowledge with each other because firms are direct competitor and afraid that they might be loss competitive advantage in case they decide to share strategic resource like firm-specific knowledge to their direct competitors. However, this can be alleviated in case firms which are in cooperation have mutual board of director. Moreover, firms are in cooperative relationship with strategic complementarity, the higher firm-specific knowledge is shared. This is because firms with is not direct competitor each other and can be complementary in term of firm's resource as well as firm's competency that each firm is expert in.

IMPLICATION

As for contribution to research literature in knowledge management and cooperation stream, this study shows that although prior several studies in firm cooperation alliance area explain that strategic similarity leads to successfully transfer knowledge causing competitive advantage, this study show that in cooperative relationship strategic similarity don't result in firm-specific knowledge sharing between firms but strategic complementarity do. However, interlocking directorates can promote knowledge sharing between cooperative firms with strategic similarity.

For managerial implication, the ultimate goal of cooperation between competitors is to accomplish mutual benefits of cooperative firms. Sharing firm-specific knowledge across firms is very important for leading cooperative firms to achieve mutual long-term competitive advantage. According to expected result of this study, firms should seek for the partners which are not direct competitors or if this cannot be avoided, they are necessary to appoint their board of director to sit as board of director of their potential partners.

6. LIMITATION AND FUTURE STUDY

While this study provides various contributions to the literature as mentioned above, its conclusions are constrained by its limitations. An obvious limitation of this study is its generalizability. In other words, this study was conducted with only one sector which it is possible that the results of strategy similarity influencing on the degree of sharing firm-specific knowledge across cooperative firms in different industries might be dissimilar from this study. Moreover, this study is concerned about the characteristics of interviewing because it is possible that normally respondents who agree to participate in this study are generally more willing to share knowledge. However, we cannot guarantee 100% that everyone in this industry is willing to share firm-specific knowledge as same as those respondents. However, the issue of validity is minimized with our triangulation approach. For the future studies, future researches are able to conduct for validating and confirming the results or even discovering additional factors promoting the degree of sharing firm-specific knowledge across cooperative firms by studying in other sectors or countries. Also, next studies the studies might interview not only partners but also their customers to see how cooperation and competition may be defined differently among different stakeholders.

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ANTECEDENTS OF NETWORK STRENGTH IN FOREIGN-OWNED SUBSIDIARIES: LOCATIONAL, EXPATRIATE, AND INDUSTRIAL CONDITIONS

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ABSTRACT

Although the effects of networks on numerous outcome variables such as performance or innovation have been investigated multiple times in the foreign-owned subsidiary literature, relatively little is known about the antecedents of network relationships. This research addresses this gap in applying configurational and network perspectives in order to explain the strength of networks in foreign-owned subsidiaries located in the mid-range emerging economy of Taiwan. The data collected from a large scale survey is analysed using fuzzy set qualitative comparative analysis method. The results show that there are a number of different configurations that can lead to increased network strength. These configurations, consisting of industrial, locational and expatriate conditions, also vary with the three kinds of networks that we investigate. Those are MNE networks, public sector networks, and local business networks.

Keywords: Foreign-owned subsidiaries, fuzzy sets, expatriates, global cities, geographic distance, networks

1. INTRODUCTION

Since the early 1990's, are organisational networks seen as key in understanding foreign-owned subsidiary development (Ghoshal & Bartlett, 1990; Kostova et al., 2016). Network relationships have shown to increase flow of goods, people, and knowledge (Forsgren et al., 2005). They provide access to new knowledge sources, increase legitimacy in the host country and affect in numerous ways performance of the subsidiary as well as the multinational enterprise (MNE) as a whole. Although the impact of networks on various outcomes has been documented in the subsidiary development literature, little is known about the conditions that facilitate the development of strong network relationships (Gammelgaard et al., 2012). If it has been considered at all, then mostly at the margins and with an industrial focus (Rugman & Verbeke, 2008). This article moves beyond technological and therefore industry specific considerations in aiming to understand the subsidiary configurations that are supportive in network strength development.

This is important for theory development, policy makers, as well as managers. For instance, network theory has predominantly focused on the outcomes of strong network relationships but has somewhat ignored the antecedents that lead to such network development. Furthermore, policy makers aim to attract foreign direct investment not only for short term job creation, but very often also to help the host country to develop economically in the long run. Such policy goals require strong local network relationships in order to have a lasting effect (Monaghan et al., 2014). Managers in the headquarters as well as subsidiaries are facing limited managerial resources (Verbeke & Greidanus, 2009), which makes it essential to understand what kind of configurations foster intra- or inter-organisational network strength respectively. The objective of this research is therefore to understand the configurations that lead to network development in subsidiaries. We also want to understand what kind of conditions are core to network development and which are peripheral.

This research aims to contribute to current literature in applying fuzzy set comparative qualitative analysis (fsQCA) to a large scale survey of foreign-owned subsidiaries (FOS) located in the mid-range emerging economy of Taiwan (Hoskisson et al., 2013). The method fsQCA allows the researcher to discover different configurations that lead to the same outcome i.e. equifinality (Fiss, 2007; Ragin, 2008). This seems more relevant than commonly applied multiple regression methods that allow only for single outcomes (Woodside, 2013) and hence might ignore important aspects of complex phenomena such as the network development in FOS's. Theoretically,

this research is based on the insights from the configurational (Fiss, 2007) and network perspectives (Forsgren et al., 2005) in current international management literature.

2. LITERATURE

This study focuses on three conditions that have been identified in the numerous branches of the wider FOS literature as being crucial in understanding network development, those are, location (Cantwell, 2009), expatriate staffing (Kostova et al., 2016), and industry (Rugman & Verbeke, 2008). In this research, we define networks as a set of actors with which the subsidiary interacts and the relationship describes the nature of their interaction (Gammelgaard et al., 2012). We distinguish between three different kinds of organisational networks. First, the MNE network that consists of relationships with headquarters, R&D centres, and other subsidiaries are owned by the multinational. Second, we distinguish two kinds of inter-organisational networks; those are network relationships with public sector leaning actors such as governmental institutions or universities. The second is the local business network strength which consists of local suppliers, buyers, and competitors for instance.

2.1 Location conditions

Recent international business literature has identified the location of FOS as a key aspect in understanding subsidiary development (Cantwell, 2009). In particular, a distinction between place and space has been proposed. In our case, space represents the geographic distance between home and host countries. Behind that measure is the well-established assumption that with increasing distance the cost of transaction increase for the FOS in the host country through liabilities of foreignness, language and cultural differences. Although geographic distance is only one component of the distance literature, it is generally considered as one of the most persistent and relevant ones (Ghemawat, 2001).

The second locational condition is the place. Here the global cities literature has argued the location in such a city reduces the distance costs (Goerzen et al., 2013). For instance, being located in a global city allows the FOS to link into a more cosmopolitan labour pool and to network with suppliers and buyers that are likely be accustomed to interacting with multinationals. In other words, locating in a global city reduces the liability of foreignness and other distance related transaction costs.

2.2 Expatriate staffing condition

The second condition is expatriate staffing strategy. Expatriates are considered an important element in knowledge preservation as well as transfer for multinationals (Harzing & Noorderhaven, 2006). They also serve as important direct control instruments (Kostova et al., 2016). Two factors are distinguished here in that debate. First, the managerial level in which the managing director's nationality is crucial. For instance, Japanese multinationals are often considered as ethnocentric in their management style, this implies that upper level management positions are often staffed with home country managers in order to preserve for instance corporate culture and ensure home country management practises (Gaur et al., 2007).

The second aspect of expatriate staffing is the relative number of expatriates in the firm. This has been investigated in a number of studies before (e.g. Fang et al., 2010), but some particularities of the Taiwanese economy make this even more important. For instance, the skilled and semi-skilled labour pool in Taiwan is considered as relatively small. That means that workers in the manufacturing sector often come from third countries such as the Philippines. Similar phenomena can also be found in other emerging economies such as Thailand or Singapore. We would expect that to be a likely condition for a more introverted orientation of the subsidiary and hence the focus will be on the development of intra-organisational rather than inter-organisational relationships of any kind.

2.3 Industry

The last condition considered here is the industry in which the subsidiary operates, in particular the distinction between service and manufacturing (Rugman & Verbeke, 2008). This is relevant for two main reasons; first, service sector firms are often less internationalised than manufacturing sector

firms. That is because service sector multinationals face higher pressure on localisation of their products as well as processes, which reduces the transferability of firm-specific advantages across country borders (Rugman & Verbeke, 2001). Hence, we would expect that manufacturing and service sector subsidiaries show a distinct network development pattern. Second, the service sector is of increasing importance for many emerging economies. Hence, the attraction and economic integration of service sector foreign-direct investment will become increasingly important for host country governments.

3. RESEARCH DESIGN

The data has been collected via phone and email survey as part of a larger research project on FOS development in Taiwan. A survey was seen as most appropriate since the required detail of information was not available through secondary data. The population extracted from the Dun & Bradstreet database of all FOS with 50% or more foreign-ownership in Taiwan consisted of 776. After several waves of phone calls in 2016 through a call centre established at the university, we received a total of 157 usable responses which equals a respectable response rate of 20.2%.

3.1 Measurement constructs

The questionnaire items have been developed based on previous research in order to increase validity of the constructs. Confirmatory factor analysis confirmed the validity and reliability of the constructs. Intra-organisational network strength has been measured on a scale from (1) very weak to (7) very strong for five items: indicate the strength of relationships you have with each of the following actors: Buyers, Suppliers, R&D and Innovation Centres, Headquarters, and Other units within the Corporation. For inter-organisational networks the items were Customers; Suppliers; and Competitors for the business networks and Governmental Institutions; Science Centres and Universities for the public sector network strength. The construct scores have been added up and divided by the number of items (Gammelgaard et al., 2012). The respondents have been asked if the managing director of the subsidiary is of Taiwanese nationality (0) or other (1). The relative proportion of expatriates in each subsidiary has been calculated by dividing the number of expatriates by the total number of employees at the FOS (Harzing & Noorderhaven, 2006).

The locational and industry variables have been obtained from secondary sources such as the Dun & Bradstreet database and the Dow and Karunaratna (2006) database for geographic distance between Taiwan and the respective home countries. The descriptive statistics are shown in table 1.

Table 1
Descriptive Statistics

	Business local networks strength	Public sector networks strength	MNE network strength	Taipei	Geographic distance	Relative expatriates	Industry	Nationality Managing director
Mean	5.32	3.96	5.22	.51	6354.43	.0882	.68	0.41
Median	5.67	4.00	5.40	1.00	2103.05	.0303	1.00	0
Std. Deviation	1.33	1.86	1.33	.50	4894.17	.1571	.470	0.49
Minimum	1.00	1.00	1.00	.00	1475.76	.0000	0	0
Maximum	7.00	7.00	7.00	1.00	12532.54	1.2500	1	1

3.2 Calibration

fsQCA requires all the values to be calibrated into set membership scores ranging from 0 (full absence of a condition) to 1 (full presence of a condition) (Ragin, 2008). The constructs of business and public sector network strength, as well as intra-organisational network strength were measured on a scale from 1 to 7. We therefore chose values of 1 as being out and 7 as being full member in each

set, the crossover point was 4. A similar approach to calibration and cut off points has also been used in previous studies (e.g. Ordanini & Maglio, 2009; Pappas et al., 2016)

Geographic distance (*GeoDist*) has the full membership as 1 for 12533km, cut off point was 2103.05, and full non-membership was the scale minimum in the sample of 1476km distance from Taiwan. The relative proportion of expatriates (*RelExpat*) has been calibrated using the median of 0.0303 as a cut-off point, the maximum membership at 0.5 and non-membership at 0.001. The managing director being Taiwanese has been calibrated as 0 and 1 is otherwise (*MDTW*). Being located in the global city of Taipei has been calibrated as 1 for yes and 0 for otherwise. To define the *industry* condition, being part of manufacturing sector has been coded 0 and 1 for service sector.

After the calibration process, a truth table is being created that provides the coverage and consistency. Rows with 0 cases have been excluded from further analysis (Ragin, 2008). For row cut-off points have natural drops in raw coverage been chosen. The cut off points vary from model to model and are presented in table 2 next to the intermediate solutions.

4. ANALYSIS & RESULTS

The results of our fuzzy set analysis are presented in table 2. In line with the conventions in the field (Legewie, 2013), are the intermediate solutions presented for each network outcome that has been investigated i.e. intra-organisational network strength, local business network strength, and public sector network strength.

Overall, the models for local business network strength and MNE network strength show a high solution coverage with well above 75% of cases explained by our suggested conditions. Public sector network strength was with just over 51% of cases explained the lowest solution coverage.

Each model shows a number of configurations that can lead to the same outcome. This is in line with our initial expectation in that it shows that there are a number of ways to explain network integration of FOS's, hence we find support for our equifinality expectation. This is especially the case in combination with a focus on expatriate staffing decisions and locational factors. The most prevalent configurations that lead to greater network integration are discussed next.

Table 2
Results

Local business network strength <i>consistency cut-off: 0.910929</i>	<i>raw coverage</i>	<i>unique coverage</i>	<i>consistency</i>
Industry*RelExpat	0.378718	0.054786	0.936985
Industry*GeoDist*~MDTW	0.352735	0.083932	0.879582
GeoDist*RelExpat*~Taipei	0.213932	0.044273	0.938508
GeoDist*~MDTW*RelExpat	0.195556	0.015470	0.980291
Industry*GeoDist*Taipei	0.390171	0.019658	0.885033
~Industry*~GeoDist*~MDTW*~RelExpat	0.134445	0.048034	0.972188
~MDTW*RelExpat*~Taipei	0.121966	0.003504	0.931462
<i>solution coverage: 0.772992</i> <i>solution consistency: 0.875000</i>			
Public sector network strength <i>consistency cut-off: 0.827377</i>			
Industry*~MDTW*RelExpat	0.195794	0.015954	0.878526
GeoDist*~MDTW*RelExpat	0.239062	0.011723	0.847472
~Industry*~GeoDist*~MDTW*~RelExpat	0.165700	0.048223	0.847343
Industry*~GeoDist*RelExpat*~Taipei	0.119048	0.035170	0.878680
~Industry*GeoDist*RelExpat*~Taipei	0.172831	0.054387	0.840683
Industry*GeoDist*MDTW*~RelExpat*Taipei	0.163887	0.070704	0.850157
~MDTW*RelExpat*~Taipei	0.160382	0.009185	0.866188
<i>solution coverage: 0.511481</i> <i>solution consistency: 0.782978</i>			
MNE network strength <i>consistency cut-off: 0.895085</i>			
Industry*RelExpat	0.369682	0.057398	0.883908
~Industry*~MDTW*~Taipei	0.227292	0.085611	0.833063
GeoDist*RelExpat*~Taipei	0.218360	0.044397	0.925760
GeoDist*~MDTW*RelExpat	0.200407	0.01645	0.970865
Industry*GeoDist*Taipei	0.394799	0.143805	0.865451
~Industry*~GeoDist*~MDTW*~RelExpat	0.140798	0.021757	0.983931
<i>solution coverage: 0.780667</i> <i>solution consistency: 0.844286</i>			

DISCUSSION AND CONCLUSION

This research aimed at understanding the complexity that underlies the development of network relationships in the context of foreign-owned subsidiaries located in a mid-range emerging economy. In particular, we focused on the conditions of expatriate staffing, geographic location, and industry. We focused on three kind of networks, those were, local businesses, public sector, and MNE networks. Given the complexity of the problem investigated here, the number of configurations leading to our network outcomes was relatively large. We therefore focus in our discussion only on those configurations with the largest raw coverage scores (Legewie, 2013).

The configurations for *local business network strength* show quite a few surprising results. For instance, the largest raw coverage was a configuration of conditions that indicates subsidiaries in the service sector with headquarters at a larger geographic distance and located in Taipei show strong local integration. That means that the expatriate staffing decisions, be it the position of managing director or the relative proportion of expatriates in the subsidiary plays no role. This changes, however, for the second highest coverage configuration which suggests that service sector subsidiaries with a high relative expatriate ratio also link stronger in the local economy. The third configuration is probably the one that is most in line with previous literature in adding that a Taiwanese managing director in service sector subsidiaries from distant host countries also develops strong relationships in the local economy (Fang et al., 2010). We therefore expand previous literature in showing that expatriate decisions need to be investigated at a much more fine grained level in order to understand network strength.

Turning to the *public sector network strength*, the two configurations with the highest raw coverage scores have both a Taiwanese managing director as well as a high number of expatriates in the subsidiary. The configurations differ, however, in that one applies to service sector subsidiaries. The other applies to subsidiaries with their corporate headquarters in countries at a larger geographic distance. Overall, this also agrees with most expectations that public sector networks are more likely developed with a local managing director. However, the higher number of expatriates in the subsidiary might indicate that public sector institutions might favour such network members due to a possibly higher learning perception especially for universities and science centres (Monaghan et al., 2014).

For *MNE network strength*, the highest raw score shows the configuration of being a service sector subsidiary, at a larger geographic distance and located in the global city of Taipei. The second highest raw coverage configuration included also the condition of service sector subsidiary and a high relative number of expatriates. In a way that is not completely surprising given that previous research indicated that service sector firms, due to their market side focus, suffer more from difficulties transferring firm-specific advantages and are probably more likely to rely on headquarters for the internal network for knowledge transfers (Rugman & Verbeke, 2008).

5.1 Theoretical contributions

This research offers a number of theoretical contributions. Firstly, we show that configurational theory in combination with fsQCA provides deeper insights into the development of network strength. That is in particular so because this combination of theory and method allow for equifinality. Equifinality means that the same outcome can be reached with different conditions. We also show that overly simplistic approximations of expatriate influence might not cover the full depth of the problem (Fang et al., 2010). In particular, we show that if the managing director is an expatriate as well as the relative number of expatriates in the subsidiary can be at the same time conducive and unfavourable to network development. Lastly, we also contribute to the emerging location literature in subsidiary network development research (Cantwell, 2009; Goerzen et al., 2013). Especially, the simultaneous consideration of expatriation and location in a global city has important implications for theory development. We show that being located in a second tier global city in Asia is not per se conducive to network development. Indeed we contribute in showing that being located in Taipei is only a peripheral condition for network strength in most cases. That means that the additional location cost might not be offset by the expected gains such as access to local networks and easier expatriate transfer.

5.2 Managerial and policy implications

We show that managers at the headquarters as well as subsidiary level need to be aware of the impacts from location, industry, and expatriate staffing strategy since all three conditions influence the development of network strength in subsidiaries. Such considerations play a particularly crucial role when learning and innovation are the prime objective of foreign-direct investment, which often requires a strong inter-organisational network (Forsgren et al., 2005). Policy makers, on the other hand, especially in emerging economies, need to be aware of the limitations of their local network

actors when attracting foreign investment. In particular, instead of focusing all the investment channeling into one particular region or city, it might be better to differentiate between the locations as well as industry in order to ensure the development of strong inter-organisational networks. This is important because only such development can lead to increased learning and innovation from the side of the MNE and makes the investment more sustainable in the long run.

5.3 Limitations and future research

This research also comes with certain limitations that can lead to future research areas. For instance, this research was limited to a sample of FOS's in the mid-range emerging economy of Taiwan. It would be of interest to investigate how the network strength configurations look like in countries that are at different economic development stages. Also of interest would be to conduct this study in a context of varying regional trade areas, especially because in that case the local networks would have to be expanded beyond the immediate borders of the host country. It should also be noted that networks can have negative implication as well such as resource dependency issues (Bouquet & Birkinshaw, 2008). This could be integrated in future research.

5.4 Conclusion

Given the focus of the prevalent network literature on the outcomes of network strength, this research set out to understand the configurations that lead to the development of strong networks. We thereby distinguished intra-organisational networks as well as two kind of inter-organisational networks. We found that the strength of networks depend on a number of conditions such as the expatriate staffing strategy, location, as well as industry of the subsidiary. We contribute to the literature in clearly establishing the usefulness of equifinality in network research given that a number of different configurations can lead to strong network relationships. We also highlighted the implications for theory, management and policy to further understand the complexities that underlie the development of networks in the context of foreign-owned subsidiaries.

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THAILAND'S EXPORT OPPORTUNITIES IN THE EUROPEAN UNION: AN ANALYSIS OF THE DSM RESULTS.

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ABSTRACT

In the light of a future EU-Thailand Free Trade Agreement, the paper identifies Thailand's realistic export opportunities (REOs) in the European Union using the Decision Support Model (DSM) approach. The 10 858 realistic export opportunities in the EU thus identified represent 21 % of Thailand's REOs in the world or 26.6 % in terms of estimated potential export value. We find that the vast majority of the REOs are in EU markets where Thailand's market share is still relatively small or even negligible. Yet, 11.49 % of Thailand's "actual" REOs (9.46 % in terms of export value) are about products that Thailand is already exporting to the EU, such that liberalization of the EU import markets will allow the country to pick some "low-hanging fruit".

1. INTRODUCTION

Although a far-away destination for Thailand's export products, the market of the European Union (EU) offers many opportunities.

The EU is an expanding market. The number of EU members has increased from six in 1957 to 15 in 1995 (the "EU-15") and to 28 at present. The total population of the EU on 1 January 2015 was 508.2 million (as compared to 322.8 million in the USA, but 1,370 million in China).¹

The EU market is since 1993 a unified single market, which allows the free movement of goods, capital, services, and people. High health, safety and environmental requirements are making the EU market a difficult market for non-EU exporters. However, once these requirements are met by the export product, it can circulate freely in the EU wherever there is demand in a EU member country, thus opening the EU single market of 508 million people.

2. BENEFITS OF EU-THAILAND TRADE LIBERALISATION

Thailand is the EU's third largest trading partner in ASEAN, and the EU is Thailand's fourth trading partner in the world (after China, Japan and the United States). At the time of the military coup of May 2014, Thailand was in the process of negotiating a "WTO Plus" Free Trade Agreement with the EU. It was estimated that by 2020 a "WTO Plus" EU-ASEAN FTA would lead to welfare gains in ASEAN of 2.2-2.3 % of GDP, with the largest gains experienced by Malaysia (8-8.3 %) and Thailand (2.6-2.7 %) (Boumellassa, Decreux and Fontagne, 2006). EU-ASEAN FTA negotiations started in May 2008, but in February 2009 the EU temporarily abandoned its interregional strategy (Cuyvers, Chen and De Lombaerde, 2010: 261). In December 2009, EU Member States gave the green light for the European Commission to pursue negotiations towards FTAs with individual ASEAN countries. On 16 December 2012, the negotiations on an EU-

¹ However, on June 23, 2016 a majority in the United Kingdom voted in a referendum to leave the European Union (the so-called "Brexit"). Due to the uncertainty related to the "Brexit" process, we decided to still treat the UK as a EU member country.

Singapore FTA were concluded. The Vietnam-EU FTA was concluded in December 2015. Negotiations for an EU-Thailand FTA were formally launched on 6 March 2013. There has been no progress since then.

Apart from zero import tariffs in the EU, Thailand's products will also benefit from the provisions of the relevant chapters on Non-Tariff Measures in the FTA, which will be similar to the chapters in the EU FTAs with Singapore and Vietnam (Cuyvers, 2014).

An impact assessment study on the EU-Thailand FTA (Pupphavesa et al., 2011) based on the GTAP 7 database under various scenarios found that:

- 1) A bilateral EU-Malaysia FTA and EU-Vietnam FTA would have a negative impact on Thailand's GDP by 0.41 % or about 297 million US\$ equivalence of welfare loss, mostly attributable to terms of trade deterioration.
- 2) An EU-Thailand FTA excluding the EU's sensitive products (rice, bovine meat products, vegetable oils and fats, dairy products, sugar) would increase Thailand's GDP by 2.32 % or 1.59 billion US\$ equivalence of welfare gain due to an improvement in both resource allocation efficiency and terms of trade.
- 3) An EU-Thailand FTA with completely free trade in goods and a 20 % reduction of trade restrictions on services would increase Thailand's GDP by 2.83 % or 2.477 billion US\$ equivalence of welfare gain. With a 40 % reduction of the trade restrictions on services Thailand would enjoy a higher increase in GDP, up to 2.85 % or 2.757 billion US\$ equivalence of welfare gain.
- 4) With capital stock adjustment, Thailand's GDP would increase even more to 3.01 % and 3.05 % under 20 % and 40 % reductions in trade restrictions on services respectively.

Employing a modified gravity model, it was found that:

- 1) Thailand's actual merchandise exports to EU countries, especially the large economies, were much below their potential level.
- 2) Trade and investment between Thailand and EU were complementary, i.e. an increase in trade between Thailand and the EU would lead to an increase in EU investment into Thailand and vice versa.
- 3) An improvement in Thailand's investment rules and regulation, equitable treatment, and transparency would raise Thailand's potential FDI inflows from the EU.

The analysis of comparative advantage in exports ($RCA_x > 1$) and imports ($RCA_m > 1$) between Thailand and the EU member countries for the top 100 export and import products defined at HS 6 digit level also showed for a large number of products trade creation benefits. However, for a number of products for which Thailand has low comparative advantage in exports with EU member countries having comparative advantage in imports, such as textile and garments and footwear, Thailand-EU trade liberalisation could lead to trade diversion and, hence, welfare losses unless the import liberalisation of these products were extended to non-parties on an MFN basis.

Lastly, there are products facing high trade restrictions. For Thailand, these highly protected products included beer made from malt, grape wine, perfumes, cosmetics, articles of jewelry, ceramics, etc., and for the EU agricultural products, food, cassava starch, sugar, electrical and electronic parts, motor vehicles parts, etc. Strong political will would be needed to achieve a meaningful Thailand-EU FTA.

The TDRI study report also covered issues such as trade in services, investment, IPR, and government procurement. The study report recommended negotiating a deep, comprehensive and high quality Thailand-EU FTA taking into account Thailand's need to accelerate effective economic restructuring and reform to achieve stable, equitable and sustainable socio-economic development.

3. METHODOLOGY: DECISION SUPPORT MODEL (DSM) APPROACH AND APPLICATION TO THAILAND

The Decision Support Model (DSM) methodology (Cuyvers et al., 1995; Cuyvers, 2004; Cuyvers, Steenkamp and Viviers, 2012a; Viviers et al., 2014) which is used, consists of consecutive “filters”, aimed at selecting product-country combinations, which can be considered as providing realistic export opportunities (REOs) for the exporting country (here: Thailand).

The DSM methodology has previously been used to identify the realistic export opportunities for Belgium (Cuyvers et al., 1995; Cuyvers, Steenkamp and Viviers, 2012b), the Philippines, Thailand (Cuyvers, 1996; Cuyvers, 2004; Cuyvers, Steenkamp and Viviers, 2012c), South Africa (Pearson et al., 2010; Cuyvers, Steenkamp and Viviers, 2012c), the Netherlands (Viviers et al., 2014), Greece (Kanellopoulos, N.C. and Skintzi) and Namibia (Teweldemedhin, M. Y. and Chiripanhura, B. 2015). Figure 1 summarises its methodology.

Thailand’s REOs in the European Union are identified based on parameters derived from the distribution of GDP and international trade data of all countries in the world, for which data are available, not only EU countries.

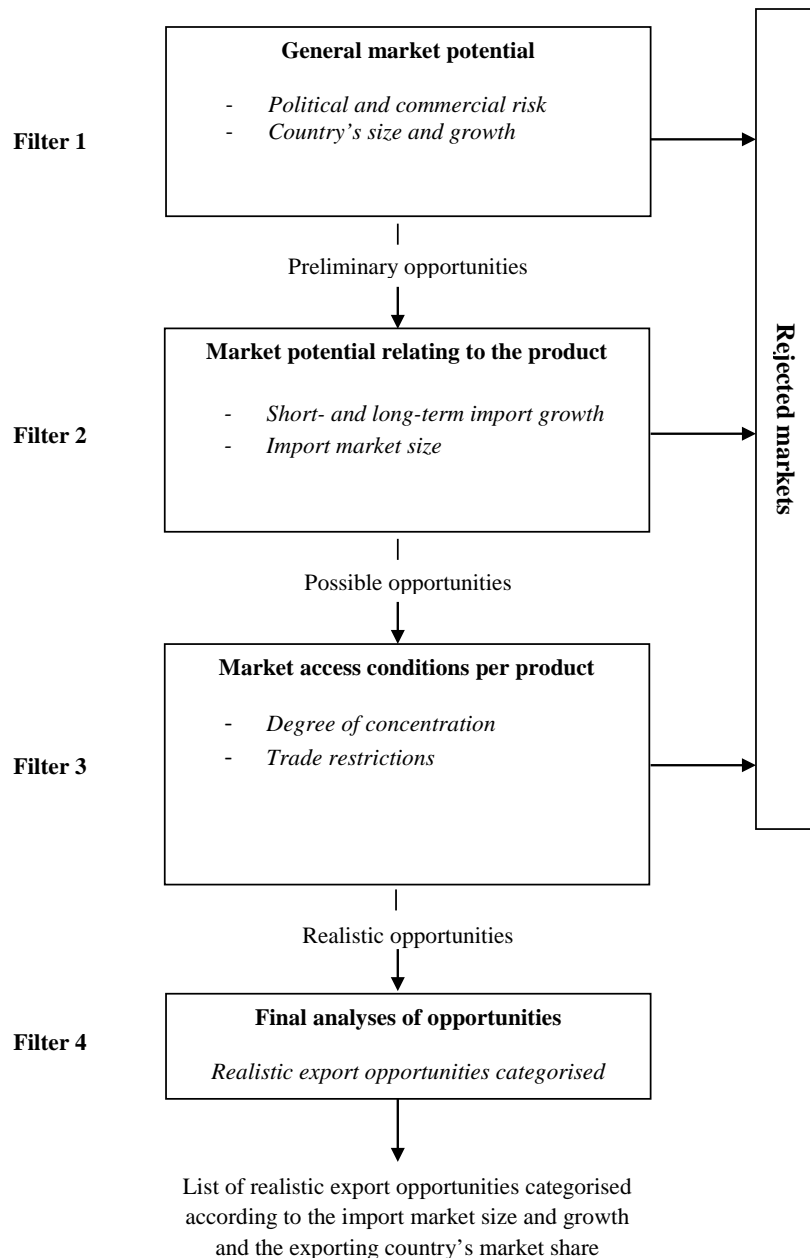


Figure 1. The basic methodology of the DSM.

Filter 1 of the DSM eliminates high political and/or commercial risk countries, and countries showing insufficient size or economic growth. In filter 2, the product categories for the countries which passed Filter 1 are assessed according to their respective imports size and imports growth. Filter 3 considers trade barriers for the product-country combinations that passed Filter 2. The product-country combinations that pass Filter 3 are considered as realistic export opportunities and are categorised in Filter 4 according to the respective import market characteristics and Thailand's market share in the importing country (see Table 1).

In order to smooth out years with unusually high or low trade figures, five-year weighted averages of the trade data are calculated and used, making the DSM results less prone to erratic changes and allowing both the Thai exporters and Thailand's export promotion agencies to evolve more sustainable export strategies.

3.1 Filter 1

The country risk posed by 210 countries and their macro-economic performance is evaluated using information from the *Office National du Ducroire* (ONDD, 2014) and *World Bank* data respectively. Filter 1 leads to retaining 165 countries that are meeting the two sets of criteria.

3.2 Filter 2

In filter 2 2009-2013 Comtrade annual import trade data are used, as adjusted by the French *International Economics Research Centre CEPII* in their BACI world trade database, at HS 6-digit level (2002 revision), for the countries that passed filter 1. However, some countries were deleted because of lacking import data from this source, e.g. Antigua and Barbuda, Puerto Rico, the Channel Islands and Taiwan.

There are 838 727 product-country combinations investigated according to their size (in US\$) and their growth rates. A country's imports for product i are considered as offering interesting export potential to Thailand if they are either of sufficient size and/or show sufficient positive growth rates in the short and longer term, based on calculated cut-off values for size and growth for each product group (Cuyvers, Steenkamp and Viviers, 2012a).² The calculation of these cut-off values is based on the characteristics of the distribution of import size and growth rates data respectively at product level in the world. The import size and growth rates that are higher than the respective cut-off values are passing filter 2, which leads to the selection of 275 541 product-country combinations in the world market as possible export opportunities (PEOs) for Thailand.

3.3 Filter 3.1: Import market concentration

Filter 3 assesses Thailand's ability to penetrate a given foreign market, as hampered by various trade barriers. Filter 3.1 assesses for each product-country combination the concentration of the import market. As in Cuyvers et al. (1995: 180-181) and Cuyvers (2004: 261-262) we measure import market concentration by the Herfindahl-Hirschmann Index (HHI), and calculate cut-off values, as outlined in Viviers et al. (2014). A product-country combination showing a HHI higher than the cut-off value will not pass due to too high concentration. Filter 3.1 leads to the selection of 159 798 product-country combinations as subset HHI.

3.4 Filter 3.2: Import market access restrictions

Following Cuyvers et al. (1995) and Cuyvers (1996, 2004) no quantification of market access barriers is attempted, but an index of "revealed absence of barriers to trade" (RATB) is used as proxy. This index shows the share of Thailand's fellow ASEAN-5 countries' exports to EU country i in their respective exports of product group j , corrected for the share of that EU country i in world trade of product group j . It is assumed that Thailand should experience no "revealed barriers to trade" for a PEO in a given EU market if at least one of the four other ASEAN-5 countries has a "revealed comparative advantage" in exporting to that market. In this way 67 260 product-country combinations are selected as subset RATB of PEOs which show a "revealed absence of trade barriers".

Since EU import markets should be both sufficiently accessible and reasonably competitive (less concentrated), we take $HHI \cap RATB$, the intersection of the two sub-sets of product-country combinations. This yields 51 620 product-country combinations, which derive from filter 3 and are called realistic export opportunities (REOs), in contrast to the possible export opportunities (PEOs) which come out of filter 2.

3.5 Filter 4: The categorisation of Thailand's realistic export opportunities according to import market characteristics and import market share

² A refinement from in this run is that filter 2 requirements are made stricter by only selecting product-country combinations with positive growth trends, in addition to the criteria previously described in Cuyvers, Steenkamp and Viviers (2012a).

Filter 4 categorises the REOs, according to the import market characteristics and Thailand’s relative import market share for each REO taken separately (for details see Cuyvers, Steenkamp, and Viviers, 2012a; see also Tables 2a, 2b, 3a and 3b). Figure 2 below summarises the filtering process.

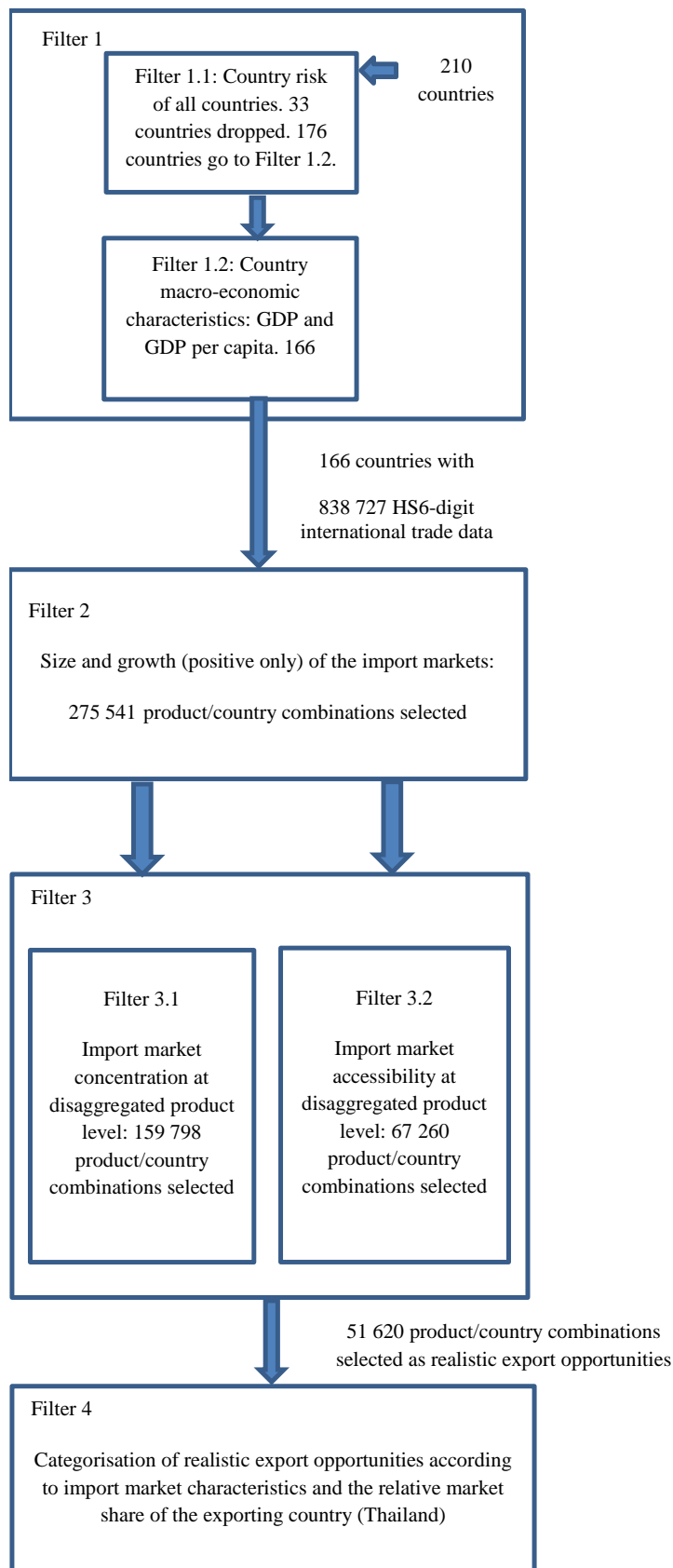


Figure 2. Summary of the DSM filtering process as applied to Thailand.

The distribution of Thailand's realistic export opportunities (numbers) into the world, according to relative market position and market characteristics is shown in Table 1.

Table 1
Thailand's REOs for the World – 2013

		Market share of Thailand relatively small	Market share of Thailand intermediately small	Market share of Thailand intermediately high	Market share of Thailand relatively high	Total
Import demand size and growth	Large market	Cell 1	Cell 6	Cell 11	Cell 16	
		4 320 8,4%	472 0,9%	98 0,2%	84 0,2%	4 974 9,6%
	Growing (long- and short-term) market	Cell 2	Cell 7	Cell 12	Cell 17	
		33 911 65,7%	3835 7,4%	975 1,9%	1074 2,1%	39 795 77,1%
	Large market short-term growth	Cell 3	Cell 8	Cell 13	Cell 18	
		728 1,4%	66 0,1%	11 0,0%	7 0,0%	812 1,6%
	Large market long-term growth	Cell 4	Cell 9	Cell 14	Cell 19	
		1 183 2,3%	177 0,3%	49 0,1%	41 0,1%	1 450 2,8%
	Large market short- and long-term growth	Cell 5	Cell 10	Cell 15	Cell 20	
		3 748 7,3%	606 1,2%	118 0,2%	117 0,2%	4 589 8,9%
	Total	43 890 85,0%	5 156 10,0%	1 251 2,4%	1 323 2,6%	51 620 100,0%

4. THAILAND'S REALISTIC EXPORT OPPORTUNITIES IN THE EU

Table 2 indicates that the number of Thailand's REOs in the European Union represents 21 % of Thailand's REOs in the world. By calculating for each REO the average US\$ value of the imports from the six major supplying countries (excluding Thailand), a rough estimate can be made of its potential export value.³

The potential export value of Thailand's REOs in the EU totals 166.1 billion US\$, or 26.57 % of that in the world.⁴ It is revealing that 93.29 % of Thailand's potential export value is to be found in the markets of the EU-15, in contrast to the meagre 6.71 % in the new EU-member countries (mostly

³ In discussions with ITC, Yvan Decreaux, Julia Spies and Cristian Ugarte an observation was made that this approach (average of the top six excluding home market) can significantly overestimate potential exports since no explicit consideration is given to production capacity. In agreement with the ITC comments, we intend to refine the potential export approach in future research.

⁴ As a comparison, ASEAN+3 represents 20 % of the number of Thailand's REOs and 40.2 % of the country's potential export value based on these REOs (Cuyvers, L., Steenkamp, E., Viviers, W., Cameron, M. and Rossouw, R., 2016, Table 1 and Cuyvers, L., Steenkamp, E., Viviers, W., Cameron, M. and Rossouw, R. 2017, Table 1).

Central European countries). Among the EU-15 countries, Germany is leading in terms of potential export value, followed by France and the UK at some distance. However, the distinction between EU-15 and “new” member countries should not be carried too far: Poland and the Czech Republic have a higher share in Thailand’s REOs than more peripheral EU-15 countries and come immediately after Spain, and before Sweden and Austria.

Table 2 distinguishes between the number of REOs (and their associated potential export values) on the one hand, and the REOs that are related to products which Thailand is already exporting to the rest of the world, also taking into account re-exports. Of the 10 858 REOs in the EU, 4 082 are REOs relating to products that the country is apparently producing and successfully exporting to the rest of the world, as shown by the figures between brackets in Table 2.

Table 2
Thailand’s Realistic Export Opportunities in EU-28 (Opportunities with Thailand’s $RCA \geq 0.7$ and $RTA > 0$ Are Between Brackets) - 2013⁵

Country	No of REOs (with $RCA \geq 0.7$ and $RTA > 0$)	% share of EU-28 total	Weighted average total potential export value In US\$ thousand (with $RCA \geq 0.7$ and $RTA > 0$)	% of total potential in EU-28 (with $RCA \geq 0.7$ and $RTA > 0$)
Austria	362 (141)	3.33 (3.45)	1 879 915 (178 311)	1.13 (1.11)
Belgium-Luxembourg	601 (221)	5.54 (5.41)	16 887 713 (7 002 147)	10.17 (10.77)
Denmark	235 (88)	2.16 (2.16)	901 170 (427 283)	0.54 (0.66)
Finland	276 (111)	2.54 (2.72)	991 105 (712 814)	0.60 (1.10)
France	878 (300)	8.09 (7.35)	27 526 772 (9 673 372)	16.58 (14.88)
Germany	1089 (342)	10.03 (8.38)	36 510 895 (11 725 341)	21.99 (18.04)
Greece	225 (89)	2.07 (2.18)	215 160 (122 474)	0.13 (0.19)
Ireland	215 (80)	1.98 (1.96)	789 729 (396 688)	0.48 (0.61)
Italy	801 (316)	7.38 (7.74)	12 009 105 (5 143 643)	7.23 (7.91)
Netherlands	636 (242)	5.86 (5.93)	2 1772 452 (11 557 668)	13.11 (17.78)
Portugal	309 (133)	2.85 (3.26)	614 747 (273 176)	0.37 (0.42)
Spain	519 (212)	4.78 (5.19)	6 952 277 (2 147 052)	4.19 (3.30)
Sweden	305 (121)	2.81 (2.96)	1 882 916 (741 606)	1.13 (1.14)
United Kingdom	1129	10.40	26 001 057	15.66

⁵ For the definition of RCA and RTA, see footnote 12.

	(387)	(9.48)	(9 837 949)	(15.14)
EU-15* total	7 580 (2 783)	69.81 (68.80)	154 935 014 (60 480 863)	93.29 (93.06)
Bulgaria	255 (108)	2.35 (2.65)	298 335 (133 123)	0.05 (0.20)
Croatia	156 (62)	1.44 (1.52)	78 642 (45 379)	0.03 (0.07)
Cyprus	156 (61)	1.44 (1.49)	45 623 (24 531)	1.75 (0.04)
Czech Republic	330 139)	3.04 (3.41)	2 909 938 (1 417 167)	0.09 (2.18)
Estonia	272 (110)	2.51 (2.69)	147 152 (60 767)	0.87 (0.09)
Hungary	232 (95)	2.14 (2.33)	1 441 372 (549 709)	0.10 (0.85)
Latvia	210 (80)	1.93 (1.96)	173 651 (70 023)	0.16 (0.11)
Lithuania	294 (118)	2.71 (2.89)	268 613 (111 317)	0.05 (0.17)
Malta	196 (62)	1.81 (1.52)	81 668 (9 388)	1.83 (0.01)
Poland	399 (169)	3.67 (4.14)	3 043 445 (1 342 539)	0.67 (2.07)
Romania	271 (105)	2.50 (2.57)	1 105 537 (381 467)	0.81 (0.59)
Slovakia	256 (91)	2.36 (2.23)	1342637 (280 463)	0.12 (0.43)
Slovenia	251 (99)	2.31 (2.43)	199 200 (87 432)	1.13 (0.13)
Total new EU members	3 278 (1 299)	30.19 (31.82)	11 135 813 (4 513 305)	6.71 (6.94)
Total EU-28	10 858 (4 082)	100.00	166 070 826 (64 994 168)	100.00
World	51 620 (18 484)	21.03 (22.08)	624 937 728 (252 707 156)	26.57 (25.72)

* Note that the international trade data used in this analysis do not contain information for Luxembourg separately from Belgium, hence actual number of countries for the EU-15 in the results are only 14.

4.1 Thailand's realistic export opportunities in the EU according to Thailand's market share and import market characteristics

A categorisation of Thailand's REOs in the European Union according to the Kingdom's relative market share and the import market characteristics sheds light on the specific attention that should be devoted by Thailand's negotiators on trade liberalisation with the EU, as well as by the country's export promotion agency. We therefore construct a matrix comparable to Table 1, in which each individual REO is located.

Four columns of the categorisation matrix represent major differences in the degree of market importance of Thailand's exports of product group j to country i compared with the combined degree of market importance of the six exporting countries (excluding Thailand) with the largest exports of

the product group j to country i . Five rows, which derive from filter 2, indicate per REO differences in import market characteristics, based on size and growth of imports of the different countries.⁶

We also distinguish between Thailand's set of "potential" REOs (all REOs that came out of filter 3) and its "actual" REOs. The "actual" REOs are a subset of the REOs for which Thailand's "revealed comparative advantage index" (RCA) is sufficiently high, e.g. 0.7 (see Balassa, 1965) and Thailand's "revealed trade advantage index" (RTA) is above zero (see Vollrath, 1991: 275).⁷ Table 3a shows the distribution of Thailand's 10 858 REOs⁸ in the European Union, whereas Table 3b shows the distribution of the "actual" REOs in the EU ($RCA \geq 0.7$ and the $RTA > 0$).

From Table 3a it can be concluded that 93.25 % of Thailand's REOs in the EU are in markets where Thailand's market share is small or negligible (Cells 1 to 5). Moreover, 53.61 % of the REOs (Cells 1 to 5) relate to import markets that show sufficient growth, but are not large in size – 20.34 % of the REOs (Cells 1 to 5) are in large markets.

It is disconcerting that only 1.68 % of Thailand's REOs in the EU are in markets where Thailand's market share is high or moderately high (Cells 11 to 20), thus offering immediate export potential. The situation improves somewhat if we consider Thailand's "actual" REOs. Based on Table 3b, it will be seen that only 2.03 % of Thailand's "actual" REOs are located in the Cells 11-15, and another 2.23 % in Cells 16-20, with some concentration of these REOs in growing market segments (Cell 12 and Cell 17). Although dramatically small in overall importance, these REOs are highly important for both developing suitable export promotion policies and strategies, and for future technical discussions within the framework of EU-Thailand trade liberalisation (see *supra*).

Remarkably, 84.25 % of the potential export value of Thailand's "actual" REOs in the EU relates to import markets where the Kingdom's market share is low or negligible, and that 49.39% of the "actual" REOs are in growing markets (Cell 2). It can also be seen that overall 57.25 % of the "actual" REOs are in EU markets that only show growth. This picture is not changing significantly when the estimated potential export values involved are considered (see section 5), which implies that although Thailand has a sufficiently high revealed comparative advantage for these REOs, the EU market still has to bear fruit.

⁶ For full details, see the progression in the methodology from Cuyvers *et al.* (1995), Cuyvers (2004), Cuyvers, Steenkamp and Viviers (2012a), and Viviers *et al.* (2014).

⁷ Balassa's Revealed Comparative Advantage Index $RCA = RCA_{T,j} = \left(\frac{X_{T,j}}{X_{W,j}} \right) \div \left(\frac{X_{T,tot}}{X_{W,tot}} \right)$

Vollrath's Revealed Trade Advantage Index $RTA =$

$$RTA_{T,j} = RCA_{T,j} - RMA_{T,j}$$

with

$$RMA_{ij} = \left[\frac{(M_{T,j}/M_{W,j})}{(M_{T,tot}/M_{W,tot})} \right]$$

(which implies a Relative Import Advantage - RMA),

and with :

$X_{T,j}$ or $M_{T,j}$ exports (imports) of country n (which is the exporting country for which realistic export opportunities are identified, here Thailand) of product j ;

$X_{W,j}$ or $M_{W,j}$ worldwide exports (imports) of product j ;

$X_{T,tot}$ or $M_{T,tot}$ total exports (imports) of country n ; and

$X_{W,tot}$ or $M_{W,tot}$ worldwide exports (imports) of all product categories.

⁸ In previous publications, the set of REOs was called the set of "potential" REOs, of which the "actual" REOs are a subset. In order not to confuse the reader with the concept of potential export value used in this paper, the "potential" adjective is dropped in "potential" REOs.

Table 3a

Distribution of Thailand's set of realistic export opportunities (numbers) in EU-28, according to relative market position and market characteristics

		Relative Market Share of Thailand				
		Market share of Thailand relatively small	Market share of Thailand intermediately small	Market share of Thailand intermediately high	Market share of Thailand relatively high	Total
Import demand size and growth	Large market	Cell 1 2 209 20.34%	Cell 6 107 0.99%	Cell 11 19 0.17%	Cell 16 22 0.20%	2 357 21.71%
	Growing (long- and short-term) market	Cell 2 5 821 53.61%	Cell 7 275 2.53%	Cell 12 52 0.48%	Cell 17 57 0.52%	6 205 57.15%
	Large market short-term growth	Cell 3 487 4.49%	Cell 8 34 0.31%	Cell 13 5 0.05%	Cell 18 1 0.01%	527 4.85%
	Large market long-term growth	Cell 4 245 2.26%	Cell 9 18 0.17%	Cell 14 2 0.02%	Cell 19 1 0.01%	266 2.45%
	Large market short- and long-term growth	Cell 5 1 363 12.55%	Cell 10 117 1.08%	Cell 15 12 0.11%	Cell 20 11 0.10%	1 503 13.84%
	Total	10 125 93.25%	551 5.07%	90 0.83%	92 0.85%	10 858 100.00%

Table 3b

Distribution of Thailand's "actual" realistic export opportunities (numbers) in EU-28 with $RCA \geq 0.7$ and $RTA > 0$, according to relative market position and market characteristics

		Relative Market Share of Thailand				
		Market share of Thailand relatively small	Market share of Thailand intermediately small	Market share of Thailand intermediately high	Market share of Thailand relatively high	Total
Import demand size and growth	Large market	Cell 1 656 16.07%	Cell 6 95 2.33%	Cell 11 19 0.47%	Cell 16 22 0.54%	792 19.40%
	Growing (long- and short-term) market	Cell 2 2 016 49.39%	Cell 7 220 5.39%	Cell 12 45 1.10%	Cell 17 56 1.37%	2 337 57.25%
	Large market short-term growth	Cell 3 164 4.02%	Cell 8 33 0.81%	Cell 13 5 0.12%	Cell 18 1 0.02%	203 4.97%
	Large market long-term growth	Cell 4 74 1.81%	Cell 9 16 0.39%	Cell 14 2 0.05%	Cell 19 1 0.02%	93 2.28%
	Large market short- and long-term growth	Cell 5 529 12.96%	Cell 10 105 2.57%	Cell 15 12 0.29%	Cell 20 11 0.27%	657 16.10%
	Total	3 439 84.25%	469 11.49%	83 2.03%	91 2.23%	4 082 100.00%

5. THAILAND'S EXPORT POTENTIAL IN THE EU ACCORDING TO THAILAND'S MARKET SHARE AND IMPORT MARKET CHARACTERISTICS.

In this section we attempt to make a reasonable estimate of the export values associated with the REOs and the "actual" REOs. Following Viviers et al. (2014) the average import value of product j in country i imported from the top six supplying countries (excluding Thailand) is assumed to provide an estimate of the potential "additional" export value of that REO, measured in US\$. The potential export values of the REOs that share common characteristics, e.g. belonging to the same Cell in Table 3a or Table 3b, can then be added up.

In Tables 4a and 4b, the distribution of these total potential export values for Thailand is shown, according to import market characteristics and Thailand's relative market share in the import markets in the EU.

Table 4a

Distribution of Thailand's set of realistic export opportunities in US\$ thousands in EU-28, according to relative market position and market characteristics

		Relative Market Share of Thailand				
		Market share of Thailand relatively small	Market share of Thailand intermediately small	Market share of Thailand intermediately high	Market share of Thailand relatively high	Total
Import demand size and growth	Large market	Cell 1 82 327 320 49.57%	Cell 6 1 912 142 1.15%	Cell 11 432 155 0.26%	Cell 16 153 248 0.09%	84 824 865 51.08%
	Growing (long- and short-term) market	Cell 2 19 755 539 11.90%	Cell 7 1 159 965 0.70%	Cell 12 74 823 0.05%	Cell 17 35 181 0.02%	21 025 508 12.66%
	Large market short-term growth	Cell 3 16 683 109 10.05%	Cell 8 705 894 0.43%	Cell 13 92 558 0.06%	Cell 18 2 783 0.00%	17 484 344 10.53%
	Large market long-term growth	Cell 4 4 558 490 2.74%	Cell 9 1 030 537 0.62%	Cell 14 10 296 0.01%	Cell 19 16 841 0.01%	5 616 164 3.38%
	Large market short- and long-term growth	Cell 5 34 606 726 20.84%	Cell 10 1 991 352 1.20%	Cell 15 192 865 0.12%	Cell 20 329 002 0.20%	37 119 944 22.35%
	Total	157 931 183 95.10%	6 799 890 4.09%	802 697 0.48%	537 056 0.32%	166 070 826 100.00%

Table 4b

Distribution of Thailand's "actual" realistic export opportunities in US\$ thousands in EU-28 with $RCA \geq 0.7$ and $RTA > 0$, according to relative market position and market characteristics

		Relative Market Share of Thailand				
		Market share of Thailand relatively small	Market share of Thailand intermediately small	Market share of Thailand intermediately high	Market share of Thailand relatively high	Total
Import demand size and growth	Large market	Cell 1 27 505 175 42.32%	Cell 6 1 582 396 2.43%	Cell 11 432 155 0.66%	Cell 16 153 248 0.24%	29 672 974 45.65%
	Growing (long- and short-term) market	Cell 2 7 937 725 12.21%	Cell 7 929 462 1.43%	Cell 12 71 419 0.11%	Cell 17 30 820 0.05%	8 969 425 13.80%
	Large market short-term growth	Cell 3 5 476 527 8.43%	Cell 8 702 606 1.08%	Cell 13 92 558 0.14%	Cell 18 2 783 0.00%	6 274 475 9.65%
	Large market long-term growth	Cell 4 1 231 507 1.89%	Cell 9 1 029 088 1.58%	Cell 14 10 296 0.02%	Cell 19 16 841 0.03%	2 287 733 3.52%
	Large market short- and long-term growth	Cell 5 15 364 588 23.64%	Cell 10 1 903 107 2.93%	Cell 15 192 865 0.30%	Cell 20 329 002 0.51%	17 789 562 27.37%
	Total	57 515 522 88.49%	6 146 660 9.46%	799 293 1.23%	532 694 0.82%	64 994 168 100.00%

Based on Tables 4a and 4b Thailand's total potential export value in the EU-28 thus tentatively estimated amounts to US\$166.07 billion, of which US\$65 billion is related to products that Thailand is already successfully exporting to the world market at large. Using the respective potential export values as weights evidently changes the distribution of the REOs over the cells of the categorisation matrix. The REOs in the EU, for which Thailand has already achieved a high or moderately high market share (Cells 11 to 20) and weighted using the potential export values account for only 0.80 % of its potential export value of the full set of REOs in the EU (Table 4a), and hardly 2.05% of that of the country's "actual" REOs (Table 4b), as compared with 1.68 % and 4.26 % respectively, if unweighted (Tables 3a and 3b). Another 4.09 % and 9.46 % of the potential export value weighted set of REOs and "actual" REOs relate to products for which Thailand has already an intermediately small market share, as compared with 5.07 % and 11.49 % respectively, if unweighted (Table 3a and 3b).

The REOs for which Thailand has a small or negligible market share (Cells 1 to 10) are representing a massive 95.10 % of the potential export value (Table 4a), and 88.49 % when only the "actual" REOs are taken into account (see Table 4b). Applying the potential export value weights makes the share of

the REOs in Cell 2 fall dramatically to only 11.09 % of the total potential export value (as compared with 53.61 % when unweighted) and 12.21 % of the value of “actual” REOs (as compared with 53.61 % and 49.39 %, respectively (see Table 3a and 3b). This fall in importance is going together with an even more spectacular rise in importance of Cell 1 to 49.57 % (from 20.34 %) and to 42.32 % of the “actual” REOs (from 16.07 %), implying that a large number of Thailand’s REOs in the EU are promising large export return, for which Thailand’s market share is still dismally low.

The weighting of the REOs and of the subset of “actual” REOs with their respective estimated export value, also has an important impact on the share of the REOs in large EU-28 markets which show considerable imports growth in the short and the long run, and for which Thailand has a small market share (if at all) (Cell 5). These markets are evidently offering significant prospects.

Although seemingly of less importance, mention should be made of the REOs of the Cells 6-10. The products which correspond to these REOs are already exported by Thailand to the world market and to the European Union. They represent 11.49 % of the total number of “actual” REOs in the EU, or, when weighted with the potential export values, 9.46 % (see Table 3b and 4b). Further and quick “early harvest” liberalisation of the EU import markets of these products, will probably allow some “low-hanging fruit” to be picked. This evidently holds even more for the REOs located in the Cells 11-20.

It can be concluded that there is a huge export potential for Thai export products in the EU-28, which largely remains to be tapped. A future EU-Thailand FTA can open these EU markets, provided the Thai exporters are well prepared and assisted by suitable government and private sector export promotion strategies. These export promotion strategies should be of an offensive and market exploratory type, and not of a market expansionary type (Cuyvers, Viviers, Sithole-Pisa and Kühn, 2012), taking into account Thailand’s low market presence in the associated EU market segments.

6. THAILAND’S EXPORT POTENTIAL IN THE EU PER BROAD PRODUCT CATEGORY

Tables 5a and 5b show Thailand’s set of REOs and “actual” REOs in the EU-28 per broad product category.

Machinery represents the largest share of the set of REOs, i.e. 30.91 % (as compared with 33.32 % worldwide), followed by mineral products (12.06 %, as compared with 10.34 % worldwide) and chemicals (11.51 % , as compared with 10.32 % worldwide) (Table 5a).

Table 5a
Thailand’s set of REOs in EU-28 per broad product category

	Potential export value (US\$ thousands) in EU-28	% of total potential export value in EU-28	Potential export value (US\$ thousands) worldwide	% of total potential export value worldwide
01 - 05 Animal and animal products	1 221 085	0.74	3 507 949	0.94
06 - 15 Vegetable products	2 755 023	1.66	5 578 611	1.49
16 - 24 Foodstuffs	4 898 989	2.95	10 370 128	2.78
25 - 27 Mineral products	20 027 062	12.06	38 606 074	10.34
28 - 38 Chemicals and allied industries	19 108 188	11.51	38 553 481	10.32
39 - 40 Plastic/Rubbers	8 631 913	5.20	19 920 984	5.33
41 - 43 Raw hides, skins, leather, and furs	1 308 460	0.79	1 913 770	0.51

44 - 49 Wood and wood products	3 673 042	2.21	8 653 674	2.32
50 - 63 Textiles	15 584 576	9.38	30 787 740	8.24
64 - 71 Stone / Glass	6 541 083	3.94	18 542 661	4.96
72 - 83 Metals	5 984 825	3.60	17 686 954	4.74
84 - 85 Machinery / Electrical	51 329 090	30.91	124 474 722	33.32
86 - 89 Transportation	7 924 573	4.77	19 692 040	5.27
90 - 97 Miscellaneous	17 082 916	10.29	35 229 432	9.43
Grand total	166 070 826	100	373 518 221	100

It will be noticed that in Table 5b machinery represents about the same share as in Table 5a. As compared with the full set of REOs, the share of mineral products in the “actual” REOs is considerably higher (28.12 %, as compared with 21.76 % worldwide) and chemicals much lower (1.51 %, as compared with 1.98 % worldwide), with plastics/rubber ranking second (8.49 %, as compared with 8.83 % worldwide). Noteworthy is also the share of textiles in the potential export value of Thailand’s “actual” REOs in the EU-28 (8.51 %, as compared with 7.68 % worldwide).

Table 5b

Thailand’s “actual” REOs in EU-28 per broad product category with RCA ≥ 0.7 and RTA > 0

	Total potential export value (US\$ thousands) in EU-28	% of total potential export value in EU-28	Potential export value (US\$ thousands) worldwide (excluding EU-28)	% of total potential export value worldwide (excluding EU-28)
01 - 05 Animal and animal products	503 255	0.77	1 463 303	0.97
06 - 15 Vegetable products	943 844	1.45	1 497 472	0.99
16 - 24 Foodstuffs	3 181 599	4.90	6 619 680	4.39
25 - 27 Mineral products	18 274 559	28.12	32 803 691	21.76
28 - 38 Chemicals and allied industries	980 884	1.51	2 981 140	1.98
39 - 40 Plastic/Rubbers	5 515 345	8.49	13 310 475	8.83
41 - 43 Raw hides, skins, leather, and furs	727 219	1.12	945 214	0.63
44 - 49 Wood and wood products	599 186	0.92	1 617 824	1.07
50 - 63 Textiles	5 528 605	8.51	11 573 204	7.68
64 - 71 Stone / Glass	2 348 154	3.61	9 666 134	6.41
72 - 83 Metals	1 622 620	2.50	4 464 622	2.96
84 - 85 Machinery / Electrical	19 679 736	30.28	50 472 397	33.49
86 - 89 Transportation	1 707 818	2.63	5 061 086	3.36
90 - 97 Miscellaneous	3 381 345	5.20	8 252 455	5.48
Grand total	64 994 168	100	150 728 696	100

Table 6 depicts the 30 “actual” REO products with the highest export potential for Thailand in the EU-28. A total of 142 products belong to the category “Machinery and equipment” (HS84-85), with a striking presence of HS847170 - Analogue/hybrid auto. data processing machines (potential export value : US\$ 1,578 million). This category is followed by textiles and footwear (HS61-64) showing 40 “actual” REOs. Remarkable is also the importance of HS160414 - Anchovies, prepd./preserved,

whole/in pieces (excl. minced), which accounts for 21 “actual” REOs and a potential export value of US\$ 295.4 million.

Table 6

Thailand's top 30 products in potential export value within EU-28, $RCA \geq 0.7$ and $RTA > 0$

HS 6-digit product category	Rank	Weighted potential REOs export value (US\$ thousands)	Weighted actual REOs export value (US\$ thousand)	Number of opportunities
HS271000 - Petroleum oils and oils obtained from bituminous minerals, other than crude	1	18 187 696	100 220	6
HS851750 - Apparatus for carrier-current line systems/digital line systems	2	2 498 353	204 406	8
HS847330 - Parts & accessories (excl. covers, carrying cases and the like)	3	2 138 529	153 166	13
HS847160 - Analogue/hybrid auto. data processing machines	4	1 880 165	306 793	8
HS401110 - New pneumatic tyres, of rubber (excl. those with herring-bone / similar tread)	5	1 641 137	333 827	14
HS852812 - Reception appliances for television, whether or not incorporating radio-broadcast receivers	6	1 424 510	94 929	8
HS640399 - Footwear (excluding waterproof) incorporating a protective metal toe-cap	7	1 124 973	91 622	12
HS850440 - Ballasts for discharge lamps/tubes	8	989 424	114 856	10
HS854221 - Cards incorporating an electronic integrated circuit (smart cards)	9	905 249	271 747	1
HS611030 - Jerseys, pullovers, cardigans, waist-coats & sim. arts., knitted or crochet	10	858 180	101 181	9
HS940360 - Furniture of mats. other than metal/wood/plastics, incl. cane/osier/bamboo/	11	796 274	31 514	10
HS847170 - Analogue/hybrid auto. data processing machines	12	780 390	1 578 081	12
HS190590 - Bread, pastry, cakes, biscuits & other bakers' wares not elsewhere specified	13	666 739	30 901	7
HS847180 - Analogue/hybrid auto. data processing machines	14	636 192	35 188	13
HS940161 - Parts of the seats of 94.01	15	597 556	27 466	6
HS848210 - Ball bearings	16	593 620	49 849	17
HS210690 - Food preparations not elsewhere specified	17	592 678	55 753	7

HS151110 - Palm oil, crude	18	582 871	123 413	6
HS740400 - Copper waste & scrap	19	561 467	1 147	3
HS870870 - Brakes & servo-brakes & parts thereof (excl. mounted brake linings)	20	510 351	68 865	9
HS610990 - T-shirts, singlets & other vests, knitted or crocheted, of cotton	21	499 938	141 043	10
HS841590 - Air-conditioning machines (excl. of 8415.10-8415.81)	22	461 653	177 076	13
HS844359 - Flexographic printing mach.	23	438 287	88 947	15
HS160414 - Anchovies, prepd./preserved, whole/in pieces (excl. minced)	24	426 582	295 385	21
HS853650 - Apparatus for protecting electrical circuits	25	422 879	15 348	10
HS871200 - Bicycles & other cycles (incl. delivery tricycles), not motorised	26	415 143	76 611	17
HS870894 - Brakes & servo-brakes & parts thereof (excl. mounted brake linings)	27	395 409	10 013	3
HS621210 - Braces, suspenders, garters & similar articles & parts thereof	28	384 789	60 436	9
HS390190 - Ethylene-vinyl acetate copolymers, in primary forms	29	378 545	278	8
HS850110 - AC generators (alternators), of an output >375kVA but not >750kVA	30	378 380	62 785	14

Table 7 lists some major products from the top 5, offering promising export potential, together with the actual and potential (potential) export values per country. Again, it can be seen that these involve products and target markets in which Thailand's market share is small or intermediately small (Cells 1 to 10). All REOs in Table 7 are located in Cells 1 to 5 of Tables 3a-b and show a large difference between Thailand's actual and potential exports (based on the average export value of the respective six main exporting countries).

The most interesting "actual" REOs, from the point of view of Thailand's exporters, are located in Cell 5 (large market, combined with long- and short-term growth), but also mention should be made of these of Cell 1 (large market).

Table 7

Examples of product-country combinations with large export potential for Thailand in EU-28

Country	Cell	Potential export value (US\$ thousands)	Actual export value (US\$ thousands) Thailand (2013)
HS271000 - Petroleum oils and oils obtained from bituminous minerals, other than crude			
Netherlands	Cell 1	6 176 940	21 413
Belgium-Luxembourg	Cell 5	3 849 342	2
France	Cell 1	3 390 285	5 419
United Kingdom	Cell 1	2 847 488	73 371
Italy	Cell 2	1 397 767	16
Finland	Cell 2	525 876	0

HS847330 - Parts & accessories (excl. covers, carrying cases and the like)			
Germany	Cell 1	510 153	8 735
Czech Republic	Cell 1	434 550	2 411
United Kingdom	Cell 3	316 010	3 963
France	Cell 2	188 668	11 633
HS847160 - Analogue/hybrid automatic data processing machines			
Germany	Cell 5	675 851	97 151
Netherlands	Cell 5	599 931	135 829
France	Cell 5	281 980	27 594
United Kingdom	Cell 5	272 528	46 197
HS851750 - Apparatus for carrier-current line systems/digital line systems			
Netherlands	Cell 5	939 294	73 439
Germany	Cell 5	489 931	52 954
United Kingdom	Cell 5	453 645	20 779
France	Cell 5	306 654	42 393
HS401110 - New pneumatic tyres, of rubber			
Germany	Cell 4	400 817	120 053
France	Cell 3	266 086	24 664
United Kingdom	Cell 3	227 819	46 832
Netherlands	Cell 3	182 761	50 960
HS611030 - Jerseys, pullovers, cardigans, waist-coats and similar articles, knitted or crochet			
Germany	Cell 3	243 318	37 872
United Kingdom	Cell 3	176 845	14 352
France	Cell 3	173 181	21 214
HS940360 - furniture of materials other than metal/wood/plastics, including cane/osier/bamboo			
Germany	Cell 1	231 425	9 011
United Kingdom	Cell 1	153 561	5 960
France	Cell 1	152 231	12 773
HS640399 - Footwear (excluding waterproof) incorporating a protective metal toe-cap			
Germany	Cell 1	230 433	27 637
France	Cell 1	199 729	16 464
United Kingdom	Cell 3	191 176	21 236
Italy	Cell 1	154 957	3 478
HS190590 - Bread, pastry, cakes, biscuits and other bakers' wares			
United Kingdom	Cell 1	215 967	18 951
France	Cell 1	164 547	2 777

In contrast, the REOs of Cell 2 relate to products the EU import demand for which is not large, but is sufficiently growing, both from a short-term and a longer-term perspective.⁹

When it comes to public export promotion, it could be difficult, for instance for HS847160 - Analogue/hybrid automatic data processing machines, to tap the large export potential in the EU because the production and export of such ADP machines is largely controlled by foreign companies operating in Thailand. HS271000 - Petroleum oils and oils obtained from bituminous minerals, other

⁹ The full list of REOs is obtainable with the authors on request

than crude, would, in Thailand's case, be less susceptible to this "MNC immunity" problem and are offering a lot of potential which seems to be untapped, based on the low actual exports of the country.

Interesting is also the potential offered in EU countries such as Germany, France and the United Kingdom, by the more labour-intensively produced textiles and footwear, but also some natural resource based products. Interestingly, these labour-intensively produced products, are based on Thailand's comparative advantage vis-à-vis the rest of the world. However, as mentioned, Thailand's market share for all these "actual" REOs is low, and they will need supportive offensive exploratory export promotion strategies in the respective EU target markets.

Although not appearing in the top 30 of "actual" REOs in the EU-28, the REOs located in Cells 11-20 should not be neglected. The top 30 of these REOs is shown in Table 8.

Table 8

Top 30 of "actual" realistic export opportunities for Thailand in EU-28 in markets where Thailand's market share is relatively high (Cells 11 to 20)

Country	HS6 Product	Cell	Weighted average estimated export value (US\$ thousands)	Weighted average actual export value (US\$ thousands) Thailand (2013)
Netherlands	HS847170 - Analogue/hybrid auto. data processing machines	Cell 20	272 889	888 628
Czech Republic	HS847170 - Analogue/hybrid auto. data processing machines	Cell 11	177 766	423 536
Italy	HS841510 - Air-conditioning machines	Cell 15	54 150	90 452
France	HS900150 - Contact lenses	Cell 11	51 369	122 876
United Kingdom	HS030613 - Crabs, whether or not in shell, frozen	Cell 15	43 188	67 843
Italy	HS030749 - Cuttle fish (<i>Sepia officinalis</i> , <i>Rossia macrosoma</i> , <i>Sepiola</i>) & squid	Cell 13	42 007	99 004
Belgium-Luxembourg	HS852721 - Pocket-size radio cassette-players	Cell 11	41 621	74 275
Germany	HS900150 - Contact lenses	Cell 11	37 624	110 484
United Kingdom	HS160520 - Crab, prepared / preserved	Cell 16	36 259	111 092
Germany	HS711311 - Articles of jewellery & parts thereof, of base metal clad with precious me ...	Cell 20	31 449	313 564
Germany	HS401519 - Articles of apparel & clothing accessories for all purposes.	Cell 15	28 448	47 877
Spain	HS841581 - Air-conditioning machines	Cell 16	26 855	80 731
France	HS711311 - Articles of jewellery & parts thereof, of base metal clad with precious metal	Cell 11	22 913	51 295

United Kingdom	HS900150 - Contact lenses	Cell 13	21 413	33 352
Germany	HS401511 - Articles of apparel & clothing accessories for all purposes.	Cell 16	20 866	70 608
United Kingdom	HS871419 - Brakes, incl. coaster braking hubs & hub brakes, & parts thereof, for vehicles	Cell 11	20 605	32 020
Germany	HS160520 - Crab, prepared / preserved	Cell 16	19 763	69 684
United Kingdom	HS841583 - Air-conditioning machines	Cell 11	19 682	36 528
France	HS841581 - Air-conditioning machines	Cell 15	18 163	47 445
Austria	HS711719 - Cuff-links & studs of base metal, whether or not plated with precious metal	Cell 19	16 841	70 345
United Kingdom	HS900490 - Spectacles, goggles and the like, corrective, protective / other (excluding sunglasses)	Cell 11	15 583	39 473
Czech Republic	HS852290 - Parts (excluding pick-up cartridges) & accessories suitable for use solely/princ. ...	Cell 15	14 555	35 557
Italy	HS841581 - Air-conditioning machines.	Cell 13	13 671	24 222
France	HS160520 - Crab, prepared / preserved	Cell 11	13 318	26 392
Netherlands	HS900150 - Contact lenses	Cell 16	13 147	58 133
Germany	HS400121 - Balata, gutta-percha, guayule, chicle & similar natural gums	Cell 15	9 899	27 714
Poland	HS900150 - Contact lenses	Cell 12	9 330	15 158
Belgium-Luxembourg	HS401519 - Articles of apparel & clothing accessories for all purposes	Cell 12	8 959	24 055
Germany	HS400110 - Balata, gutta-percha, guayule, chicle & similar natural gums	Cell 13	8 893	15 613

For one, these REOs require another type of export promotion than these with an intermediate low and low market share. Further trade liberalisation and better market access to the EU market will have an immediate impact on Thailand's exports since the products are already successfully exported to the EU. Both reductions of the EU tariff measures and, even more importantly, trade facilitation in the field of the existing non-tariff measures (safety requirements, labels, existing norms and standards, etc.) will make these REOs "low-hanging fruit" to be picked by Thailand.¹⁰

7. SUMMARY CONCLUSION

Being its fourth trading partner, the European Union is an important market for Thailand. Since March 2013 negotiations on a "WTO Plus" free trade agreement started between the European Union and Thailand, after the EU successfully concluded a free trade agreement with Korea, Singapore and Vietnam. Unfortunately, since the military coup in Thailand of May 2014 the negotiations are kept on hold by the EU. Preparatory studies in the EU and Thailand on the impact of an EU-Thailand FTA showed welfare gains for the Kingdom of 2.6-2.8 % (or even more) of GDP. Using the Decision Support Model (DSM) approach, we attempted to identify Thailand's realistic export opportunities in the EU.

¹⁰ Inspection of the present import duties for EU imports from third countries at http://ec.europa.eu/taxation_customs/dds2/taric/taric_consultation.jsp (consulted on 25.09.2016) shows ad valorem import duties ranging from 0 % (HS847170), 2.20-2.70 % (HS841510) to 6-30 % (HS030729) and 1-14 % (HS852721).

The DSM approach consists of “leading” macro-economic and international trade data through consecutive “filters” such that the less performing and less promising opportunities are removed. The DSM allowed the identification of 10 858 realistic export opportunities in the EU, representing 21 % of Thailand’s REOs in the world at large. It also appeared that 69.8 % of these REOs are in the EU-15, i.e. in the member countries before the EU enlargement towards the Eastern European countries. By tentatively estimating the export value of the individual REOs it was found that the 10 858 REOs in the EU are good for 26.6 % of the thus estimated potential export value of Thailand’s REOs in the world, thus vindicating the importance for Thailand of the EU market. However, taking into account that a number of the products involved are either not competitively produced in Thailand and/or are related to re-exported imports, we limited the REOs to 4 082 “actual” REOs, which are representing 22.1 % of the country’s “actual” REOs in the world in terms of numbers and 25.7 % in terms of estimated export value.

It appears that the vast majority of these “actual” REOs are in EU markets where Thailand’s market share is still relatively small or even negligible: 84.25 % in terms of numbers and 88.49 % in terms of estimated export value. This has, evidently, important consequences for Thailand’s FTA negotiation position vis-à-vis the EU, as well as for the country’s export promotion strategies and policies in the future.

As to Thailand’s FTA negotiation position we have argued that for the 11.49 % of Thailand’s “actual” REOs (9.46 % in terms of export value) which are about products that Thailand is already exporting to the EU using its existing distribution channels, liberalization of the EU import markets will allow the country to pick some “low-hanging fruit”. The same evidently holds for the 4.26 % of Thailand’s “actual” REOs in the EU for which it has achieved already an intermediate high or high market share. The 84.25 % of Thailand’s “actual” REOs which are about products for which Thailand’s market share in the EU is low or negligible, require public export promotion support of an offensive and market exploratory type. The products involved relate e.g. to automatic data processing machines and petroleum oils, but also to the labour-intensive or resource-intensive products such as furniture, pullovers and footwear.

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THE ATTRACTION OF FOREIGN DIRECT INVESTMENT ENTERPRISES AT DONG NAI INDUSTRIAL ZONES, VIETNAM

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ABSTRACT

At present goods, technology, and capital are easily transferred in the global economy, especially from developed countries to less developed countries. Foreign direct investment (FDI) is a means which helps investors in developed countries to transfer them to less developed countries. Therefore, FDI plays an important role in the economic development. In a developing country, FDI contributes a lot to the development of its economy: receiving modern technology from investors, creating jobs for laborers, improving labor skills, etc. The research aims are (1) Analyzing factors which affect FDI attraction at Dong Nai industrial zones in order to find out foreign investors' satisfaction level; (2) Proposing recommendations to improve FDI attraction in Dong Nai province.

Keywords: Foreign Direct Investment, factors affecting, economic, Dong Nai

INTRODUCTION

In the present trend of globalization of economic activities, foreign direct investment (FDI) is becoming popular and plays an important role for a lot of countries in the world, especially developing countries which need development investment capital very much because the starting point of their economy is low, their technological level is low and economic growth is not sustainable. They not only rely on accumulated capital resources in the country but also pay more attention to FDI capital. In fact, appealing to FDI is considered to be one of the best ways for economic growth and development of each nation although in the long-term plan, nations can realize that the domestic capital resource plays a key part.

Vietnam has joined ASEAN since 1995, helping the prospect of investment cooperation between Vietnam and ASEAN to become better because Vietnam is the positive member of this community. Moreover, the formation of ASEAN Economic Community (AEC) at the end of year 2015 will be a good advantage to promote the investment of ASEAN countries into Vietnam.

Borensztein, Gregorio, and Lee (2008) stated that the relationship between foreign direct investment and economic growth has been an interested issue for several decades. In the new growth theory, FDI is an important factor that contributes to economic growth through technology transfer efficiency improvement. FDI affects economic growth in several ways. It is argued that FDI has been a major channel for the access to advanced technologies by recipient countries and hence plays a central role in the technological progress of these countries.

According to the result of the surveys by Japan Bank for International Cooperation (JBIC, 2015), during the period of 2012 – 2015, the advantages that were pointed out as the main factors allowing Viet Nam to attract a large amount of FDI from Japan, included low labor costs, qualified human resources, future growth potentials of local market and stable political situation.

Since the issue of foreign investment law of Vietnam in 1987, FDI has remarkably contributed to supplementing the capital resource, transferring technology, increasing exportation and employment and become the important factor in speeding up the growth rate of economy of the country, strengthening the transfer of economic structure towards industrialization and modernization. This indicates that there has been a considerable change and a positive influence on foreign investors about the investment potential and environment in Vietnam in the present time. Although Vietnam is one of many destinations for international investors, it remains under constant pressure to attract FDI for its own national economic interest, and since it is located within one of the most dynamic area in the

world for international investors. Actually, Vietnam has become an attractive host country, been the third largest recipient of FDI inflows in the ASEAN, behind Singapore and Malaysia, and strengthened its position as a significant investment base (Mirza & Giroud, 2007).

Dong Nai is considered an important economic development area of the key economic regions of the Southern Vietnam with plentiful workforce because labourers from different places in Vietnam come here to earn a living. It is located on an acute angle of the development triangle Ho Chi Minh City – Binh Duong – Dong Nai. This location is very advantageous for transporting merchandise and doing business to investment enterprises. Besides that, Dong Nai's natural and socio-economic conditions are favorable to push ahead FDI attraction and expand Dong Nai's business operations with different areas in Vietnam and the world in order to serve its socio-economic development. In the context of the country's growing international economic integration, as well as its participation in many new generation free trade agreements, such as the TPP, EVFTA, and the formation of AEC, many foreign investors are promoting their investments in Vietnam. Grasping this huge opportunity, Dong Nai across the country will certainly benefit from these important external resources for its local socio-economic development.

Dong Nai has been one of the 3 areas which lead the whole country in appealing to FDI as well as developing industrial zones. This gives remarkable contributions to pushing ahead the local economy, provides a lot of employment for labourers both in Dong Nai and in different places of Vietnam, helps domestic enterprises to invest in renovating technology and management methods, contributes to increasing the local resource of budget, and efficiently improves the exploiting and using economic forces in Dong Nai province.

Dinh Quoc Thai, Dong Nai provincial People's Committee Chairman (August, 2013) states that since the regional and global economic integration, Vietnam has had a lot of opportunities and advantageous conditions to develop the country economy. However, Vietnam also encounters difficulties and challenges because of the present difficulty of the global economy. This affects the FDI attraction and makes the FDI growth rate slow down, especially the FDI capital resource going into industrial zones in Vietnam. In Dong Nai province, the additional reason which negatively influences FDI activities at its industrial zones is the lack of adequate infrastructure and environmental pollution (Nguyen Thi Bich Thuy, 2013). Moreover, Dong Nai province also needs to strengthen the training of staff who work on investment promotion in particular and on investment management in general. Hence, advocacy and coordination with international organizations to support training classes for foreign investment promotion and management are very necessary. And training skilled laborers to supply for the industrial zones in Dong Nai province is still limited. Therefore, Dong Nai province frequently appeals to high-quality workforce from different areas in Vietnam. Besides its rapid increase of light industries and labor intensive industries, Dong Nai usually lacks the quantity of high-quality laborers when developing the economy or investing a lot in business manufacture. Especially, after the Tet holidays, workers from different provinces or cities do not come back to Dong Nai for their work. This is really a serious problem which Dong Nai encounters (Dinh Quoc Thai, 2013).

An urgent issue given is that there need to be directions and solutions to attract FDI in the next years, aiming at meeting the objective of economic growth and development as well as creating the foundation for industrialization and modernization in 2020 in Vietnam in general and in Dong Nai in particular. Therefore, the analysis of factors affecting the attraction of foreign direct investment in Dong Nai province to find out the satisfaction level of foreign investors is necessary for the government in offering policies to attract investment capital.

2. THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

This research was based upon the background theory on advantages and disadvantages of FDI proposed by *Thu and Huyen (2008)*: The home country's benefits from foreign direct investment, the host country's benefits from FDI capital, warnings for foreign investors' investment decisions and warnings for the home country, OLI framework which was developed by *Dunning (1997)* and related

researches by Bradbury, Kodrzycki and Tannenwald (2007); Fawaz Binsaeed (2009) on factors which affect FDI investment decisions. The author proposed the factors affecting the satisfaction level of FDI enterprises at Dong Nai industrial zones, including: Infrastructure, Natural and Human resources, Costs, Supporting policies and Inspection and Supervision activities of Dong Nai.

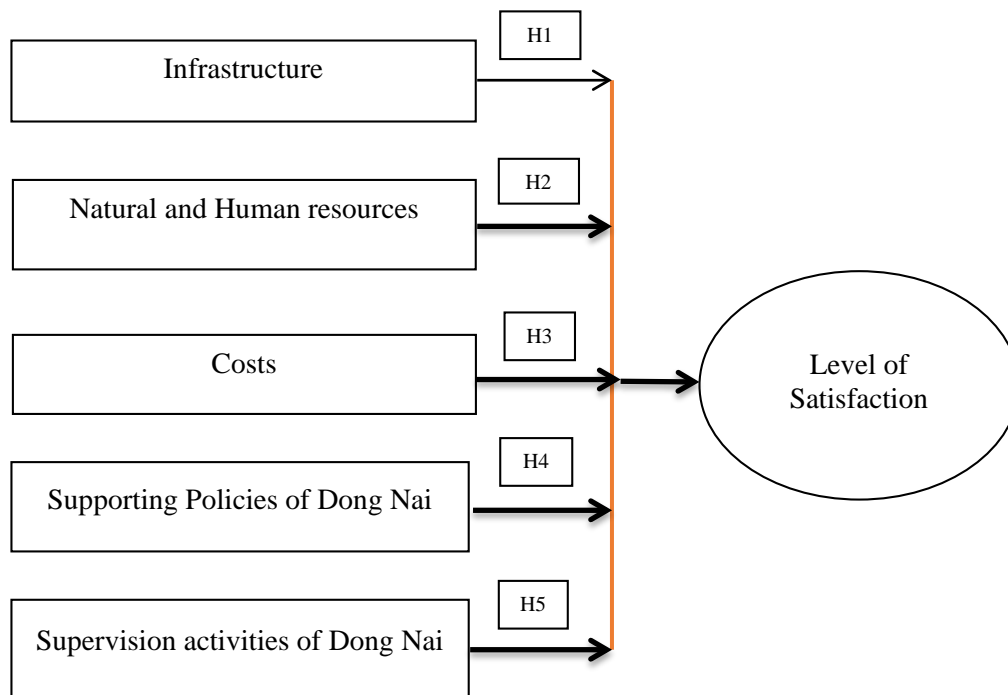


Figure 1. Theoretical Framework

Hypothesis 1: Infrastructure positively relates to FDI enterprises’ satisfaction.

Hypothesis 2: Natural and Human resources positively relate to FDI enterprises’ satisfaction.

Hypothesis 3: Costs positively relate to FDI enterprises’ satisfaction.

Hypothesis 4: Supporting Policies of Dong Nai positively relate to FDI enterprises’ satisfaction.

Hypothesis 5: Supervision Activities of Dong Nai positively relate to FDI enterprises’ satisfaction.

3. DATA AND METHODOLOGY

3.1 Sample size and Population determination

The respondents were selected through purposive sampling. Purposive sampling used is judgment. According to Sekaran (2006), judgment involves the choice of subjects who are in the best position to provide the information using the non-probability method. Therefore, people who have knowledge about particular problems can be selected as the sample element. The target respondents were FDI enterprises diversifying business activities in the field of industrial production because after their investment. They can evaluate it exactly from FDI attraction.

According to Gorsuch (1983), minimum sample size used in Exploratory Factor Analysis is 200 observations. This research chooses Convenience Sample, so the sample size will be required according to the standard 5:1 (Bollen, 1989): the minimum number of observations needs to be greater than five times of the number of variables. This research has 32 observations which needs to be measured. As a result, the minimum sample size required to run Exploratory Factor Analysis in this research is $32 \times 5 = 160$. However, to get reliable results in the research, the sample size in the quantitative research is officially 160 samples.

Summarily, this research needs at least 160 samples according to the non-probability method to take Exploratory Factor Analysis and regression. Hence, 200 surveys were distributed to the target respondents who were FDI enterprises at Dong Nai industrial zones to get the data for analysis.

3.2 Methodology

This research was carried out through 2 major periods: (1) Qualitative research aiming to statisticize, collect data, adjust and supplement the scale (2) Quantitative research aiming to analyze the survey data via techniques, such as statistics, analysis, synthetics, comparison along with Cronbach's Alpha, exploratory factor analysing (EFA), regression.

Firstly, the research problem was defined, and then the research objective and research questions were identified to be the target of solving defined research problem. Secondly, based on the literature review and the relevant researches, the author proposed a scale model with observable variables which could be factors affecting investment decisions into industrial zones and could measure satisfactory levels of investors after they invested at Dong Nai industrial zones. Next, the author built hypotheses for this study. From this, a preliminary questionnaire was developed. Next step was the research design with 2 sub-steps:

- The author carried out the pilot research through statistics, data collection, consultation of officers who worked in the field of FDI management of Dong Nai province and Management Board of Dong Nai industrial zones to adjust it suitably to the actual state at Dong Nai industrial zones.
- The author carried out the formal research by sending the survey questionnaire to FDI enterprises. Data collection was done about two weeks later.

After that, data collection was cleaned and used to test reliability and validity of questionnaire through Crombach's Alpha coefficient and Exploratory Factor Analysis (EFA) method. Multiple Linear Regression method was used to evaluate the hypotheses which the implications and findings were stated and reported.

4. EMPIRICAL ANALYSIS

Statistics indicating the importance of the factors affecting the attraction of foreign direct investment at Dong Nai industrial zones

In order to analyzing and interpreting the collected data, the author set up the Verbal Description as follows:

Table 1
Analyzing and interpreting the collected data

Level of Agreement	Mean Scale	Verbal Description
Strongly Disagree	1.00 – 1.49	Poor
Disagree	1.50 – 2.49	Fair
Undecided	2.50 – 3.49	Satisfied
Agree	3.50 – 4.49	Very Satisfied
Strongly Agree	4.50 – 5.00	Outstanding

(1). Infrastructure

When evaluating the infrastructure of Dong Nai province, most of investors were very satisfied with transportation system, infrastructure of industrial zones, legal regulations of Dong Nai as well as banking systems while the port system and airport transportation were evaluated at a satisfied level.

Table 2
The importance of Infrastructure

Evaluation	Mean	Verbal description
Factor <i>Infrastructure</i>	3.4875	Satisfied
Q1: The port system is modern, serving import and export activities well.	3.3813	Satisfied
Q3: The airport system is well-equipped, meeting the demands of traffic and goods transportation.	2.5188	Satisfied
Q5: The traffic system is quite convenient for enterprises.	4.2063	Very satisfied
Q7: The infrastructure of the industrial zones are modernly invested and built.	3.5625	Very satisfied
Q9: Security and legal regulations in Dong Nai are always kept stable.	3.5563	Very satisfied
Q13: Systems of telecommunications, banking, etc. are very good.	3.7000	Very satisfied

For more details, in question 5, most of respondents (61%) agreed and strongly agreed that the traffic system was quite convenient for enterprises. There were 29% of respondents disagreeing and strongly disagreeing with this evaluation while there were only 10% of the remainder having neutral opinions. Dong Nai province is next to Hochiminh city and Binh Duong province as well as has the national road along the province so that it can take more advantages in transportation than other provinces. That is the reason why many foreign investors want to invest in this province. Therefore, Dong Nai government has to invest more in transportation to attract more investors as well as new ones. When evaluating question 7, there were 58.8% of respondents agreeing and strongly agreeing that the infrastructure of industrial zones in Dong Nai was invested and built with new facilities while 16.2% of respondents disagreed and strongly disagreed with this evaluation and 25% of the remainder had no ideas. Board of Industrial zone Management and Dong Nai government have to pay attention to this issue regularly to take advantage in the marketing campaign since basic infrastructure is one of important factors that lead the foreign investors to invest abroad and investors do not have to invest in building facilities in order to use their capital to invest in human resources as well as manufacturing assembly lines.

Moreover, in question 9, most of FDI enterprises (67%) in Dong Nai province agreed and strongly agreed that security and legal regulations in Dong Nai were always stable. There were 18% of them disagreeing with this evaluation while 15% of them had neutral opinions. The stability of politics and economy of Vietnam leads to transferring investment trends from China into Vietnam of foreign investors. Therefore, Dong Nai government and Vietnamese government have to compose more incentive policies to attract more FDI.

(2). Natural and Human resources

Table 3
The Importance of Natural and Human Resources

Evaluation	Mean	Verbal description
Factor <i>Natural & Human resources</i>	3.3450	Satisfied
Q2: The human resources are plentiful and can be supplied with a large quantity.	3.5313	Very satisfied
Q4: Many laborers are trained in advance to work at industrial zones.	2.2125	Fair
Q6: The laborers are hard-working and diligent.	3.2750	Satisfied
Q8: The natural resources are plentiful, serving industrial production well.	2.5063	Satisfied
Q10: Most of laborers in Dong Nai province are skilled workers.	2.2000	Fair

Obviously, the benefits of production in Vietnam are low labor costs and rentals as well as the availability of labor in local provinces. These are attractive characteristics for foreign investors. When evaluating human resources with question 2, 63% of respondents agreed and strongly agreed that the human resources in Dong Nai province were plentiful and could be supplied with a large quantity. There were 20% of respondents having neutral opinions while 17% of the remainder disagreed and strongly disagreed with this statement.

In contrast, in question 4, the majority of respondents (71%) disagreed and strongly disagreed that many laborers in Dong Nai province were trained before working at industrial zones. There were 24% of respondents agreeing with this evaluation while 5% of the remainder had neutral choice. Because Dong Nai province government does not pay much attention to investing in technical schools for this province while some universities and colleges located in this province only train bachelors majoring in economics, foreign languages, accounting, art, etc. but not skilled workers. Therefore, there is a serious shortage of skilled workers to supply for industrial zones in this province. It's time that Dong Nai leaders revised their human resources policy to supply for industrial zones, investing more at vocational schools as well as maintaining competitiveness in attracting FDI.

In general, most of investors in Dong Nai province were satisfied with natural resources and amount of work force of this province, but they had fair evaluation towards workers' qualifications and skills.

(3). Costs

Table 4
The Importance of Costs

Evaluation	Mean	Verbal Description
Factor <i>Costs</i>	3.1550	Satisfied
Q14: The salaries of office staff and managers are low.	3.1875	Satisfied
Q16: The salaries of technical staff and manual laborers are low.	3.0750	Satisfied
Q18: The prices of electricity and water are moderate.	3.1938	Satisfied
Q20: The prices of services of telecommunications, banking finance, etc. are cheap.	3.1563	Satisfied
Q22: The price of transportation services is cheap.	3.1625	Satisfied

The majority of investors in Dong Nai province were satisfied with prices of renting, financial services, and salaries of staff when they invested here. In questions 18 and 20, more than half of

respondents (56.2%) agreed and strongly agreed that the prices of telecommunications, banking, finance services as well as other services were cheap in Dong Nai province. There were only 23.8% of respondents disagreeing with this evaluation while 20% of the left had no opinions. The costs of services, land for rent in Hochiminh city and Binh Duong province are higher than in Dong Nai province. Therefore, it is also a key for investors to consider. Therefore, Dong Nai government should revise its FDI policy about land budget saved for investors as well as offer more competitive prices to attract more investors for this province.

A good transportation system can help foreign investors a lot with the transport of materials and goods as well as their products to the market. That is the reason why the price of transportation in Dong Nai province is cheap for investors. When evaluating this statement, 55% of respondents agreed and strongly agreed with this statement. There were 34% of respondents disagreeing with this evaluation while 11% of the remainder had neutral choice.

(4). Supporting policies

In a general view, most of investors in Dong Nai province were very satisfied with marketing activities, government officers, and solutions to solve FDI enterprises in acquiring investment licenses, land budget and supporting policies from Dong Nai government. They were also satisfied with renting prices, administrative procedures, human resources in Dong Nai province.

Table 5
The Importance of Supporting Policies

Observer	Mean	Verbal Description
Factor <i>Supporting policies</i>	3.4714	Satisfied
Q15: Many marketing activities are carried out for FDI publicity and attraction.	3.5188	Very satisfied
Q17: The officers always have friendly and enthusiastic attitudes in supporting investors.	3.6938	Very Satisfied
Q19: The administrative procedure is simple and fast.	3.4813	Satisfied
Q23: The land rental price is cheap.	3.3438	Satisfied
Q25: The infrastructure investment to serve FDI enterprises is paid much attention to.	3.3625	Satisfied
Q27: Training high-quality human resources is positively supported.	3.1875	Satisfied
Q29: Contributions to solving troubles of FDI enterprises are always paid attention to.	3.7125	Very satisfied

When answering about the management procedure at industrial zones in question 19, 53.1% of respondents agreed and strongly agreed that the administrative procedure of Dong Nai government was simple and fast. There were only 18.1% of respondents disagreeing with this evaluation while 28.8% of the remainder neither agreed nor disagreed. When the government of Dong Nai has granted investment licenses quickly and eased customs formalities, investors have advantages of manufacturing, importing materials for their manufacturing and exporting their finished products, Dong Nai government gets both import-export tax and revenue for having investors invest at industrial zones of this province as well as helping local people and workers get employment and improve the development of economy in this province.

For questions 25 and 29, there were 57.5% of respondents agreeing and strongly agreeing that the infrastructure investment to serve FDI enterprises was paid much attention to by Dong Nai government. There were only 22.5% of respondents disagreeing and strongly disagreeing with this evaluation while 30% of the remainder had neutral opinions. Therefore, Dong Nai government and Department of Planning and Investment of this province have to invest more in basic infrastructure to

maintain competitive advantages as well as attract new investors because the most important thing in attracting foreign investments is the developed infrastructure which is the main reason leading investors to investing abroad.

(5). Supervision activities

Table 6
The importance of Supervision activities

Evaluation	Mean	Verbal Description
Factor <i>Supervision</i>	3.3988	Satisfied
Q12: Managing the used lands at the industrial zones is executed well.	3.4875	Satisfied
Q26: Managing the issue and withdrawal of investment licenses is executed well.	2.5375	Satisfied
Q28: The taxation on FDI enterprises is managed closely.	2.4000	Fair
Q30: The labor usage of FDI investors is managed well.	3.2500	Satisfied
Q31: The environmental hygiene at FDI enterprises is inspected and handled regularly.	3.3188	Satisfied

Most of foreign investors were satisfied with supervision of local government while some of them had fair evaluation towards taxation system for enterprises. In question 12, more than half of respondents (56%) agreed and strongly agreed that managing the used land at industrial zones was executed well by Dong Nai government. There were only 24% of respondents disagreeing with this evaluation while 20% of the left had neutral opinions. Dong Nai government has delivered the right investors the suitable land for their investments as well as has reduced the cost of renting land for foreign investors at industrial zones so that they could have long-term contracts to invest more at industrial zones in Dong Nai. That is a wise policy to attract foreign investors.

In question 28, there were 57% of respondents agreeing and strongly agreeing that the taxation on FDI enterprises was managed closely. There were 33% of respondents disagreeing and strongly disagreeing with this statement while 10% of the remainder had neutral choice. Dong Nai government and Department of Dong Nai Tax have to change their tax policy and give more incentive taxes for enterprises to obey their tax compliant behavior well.

When evaluating the environment in question 31, 40.5% of respondents agreed and strongly agreed that Dong Nai government inspected and handled the environment hygiene at FDI enterprises regularly and carefully. There were 23.5% of them disagreeing with this evaluation while 36% of the remainder had no opinions. This result is that Dong Nai government and Dong Nai Department of Natural Resources and Environment have launched strict regulations to protect the environment as well as control pollution and regularly investigate the violation of them. Therefore, the companies at industrial zones in Dong Nai have not violated regulations related to this problem.

The level of FDI enterprises' satisfaction with their investment

Table 7
The Level of FDI Enterprises' Satisfaction

Level of agreement	Frequency	Percentage	Average Mean	Verbal Description
Completely not satisfied	26	16%	3.4313	Satisfied
Not satisfied	46	29%		
Satisfied	66	41%		
Completely satisfied	22	14%		
Total:	160	100%		

In general, more than half of respondents were satisfied with their investment in Dong Nai province. After analyzing the collected data, 55% of respondents were satisfied with their investment while 45% of the remainder were not satisfied with their investments in this province. The factors of *Natural and Human resources* as well as *Support policies* affect the investment of investors. The shortage of skilled workers and supervision from the government and departments of the province makes investors have to consider carefully when investing their money in the province.

When the current investors at industrial zones in Dong Nai province are unsatisfied, there will be a big influence on new investors as well as the goal of attracting more FDI for the province. Therefore, Dong Nai government should revise all of its investment incentive policies and strategy to develop human resources to supply for industrial zones as well as invest more in transportation, port, and airport to meet all requirements of investors and keep track of competition from other provinces surrounding it, such as Hochiminh city and Binh Duong province to attract more FDI for this province.

CONCLUSION

In the present context of AEC integration, Vietnam has more distinct advantages of FDI attraction in ASEAN community because Vietnam has not only a plentiful workforce that is very industrious and willing to get technological advances of the world but also political stability that guarantees a stable investment environment for investors. Besides that, its infrastructure and investment attraction policy are remarkably improved. This will help increase FDI attraction for Vietnam in general and for Dong Nai province in particular.

This research aimed to analyze the factors affecting FDI attraction at Dong Nai industrial zones in order to find out the level of FDI enterprises' satisfaction with their investment in this province. This research focused on five main factors, such as *Infrastructure, Natural and human resources, Costs/Prices and salary of workers, Supporting policies and Inspection and Supervision activities*. Through this research, Dong Nai government needs to regularly review their management effectiveness and incentive policies to promote FDI in Dong Nai province. Besides that, they also need to improve infrastructure, invest more in training and developing high-quality human resources for Dong Nai province in general and Dong Nai industrial zones in particular.

The research also helps other local provinces in Vietnam see the advantages and disadvantages of Dong Nai province in attracting FDI so that they can draw lessons of experience for themselves in order to develop their strengths, overcome their limitations and give suitable solutions to attracting more foreign investors in the future.

For the present investors, they are able to recalculate their investments how to be more effective or request Dong Nai province to change some regulations for present investors to overcome difficulties that they have encountered. Moreover, from this research, future investors can also take into careful

consideration as well as find out appropriate investment goals for their investments in Dong Nai province in the future.

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FINANCING PREFERENCES AND PRACTICES OF INDIAN SMES

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ABSTRACT

This exploratory study examines the financial preferences and practices of small and medium-sized enterprises (SMEs) in India. We analyse the data using descriptive statistics, paired t-test, and Pearson's coefficient of correlation. The findings indicate that major financing preferences of SMEs and how these preference differs from the present financial resources utilized by these firms. Preference for internal funds is higher among all other resources followed by bank financing, trade credit and funds from family friends and relatives. This study highlights the existing financial resources available for SMEs in India and identifies unutilized financial resources. Given the relatively low response rate, the findings are suggestive, rather than definitive.

Keywords: SMEs, financing preferences, internal funds, trade credit

INTRODUCTION

Firms need financial resources to operate. Yet, some firms have much greater difficulty obtaining funds than others. Small and medium-sized enterprises (SMEs), whether in developing or developed nations, face many obstacles in procuring the necessary funds (Bocock & Wahab, 2001). For example, De (2010) discusses the problems that Indian SMEs encounter obtaining short-and long-term financing while Husaain et al. (2006) reports that the majority of Chinese SMEs do not have enough capital to meet their long-term requirements. In fact, Kraemer-Eis and Lang (2012) view this concern as a fundamental structural issue for SMEs. Therefore, a need exists to understand financing preferences and practices of SMEs.

SMEs in India constitute 95% of the industrial ecosystem. They constitute about 45% to manufacturing and contribute 40% to Indian exports. Given that 17% of India's gross domestic product (GDP) comes from the SME sector, this sector is important to the Indian economy. Not surprisingly, the growing importance of SMEs in the industrial arena has attracted the interest of researchers (Carpenter & Peterson, 2002). A major issue of SMEs relates to their financial constraints.

The purpose of this study is to identify the financial preferences and practices of SMEs in India. Because SMEs are not required to publish financial statements, survey research is the primary source of obtaining data. Given the limited survey research on SMEs in India, our study contributes to literature on SME financing by identify the type of lending infrastructure required by SMEs. We focus on the following research questions.

1. What are the preferred types of internal and external financing sources by Indian SMEs?
2. Do Indian SMEs prefer short-, medium-, or long-term financing sources?
3. How do Indian SMEs rank their preferred financing sources?
4. Are the stated preferences and actual practices of Indian SMEs concerning financing sources consistent?

BACKGROUND ON SMES

Situational factors affect both financial preferences and practices. For SMEs, these factors often depend on the owner's perspective because the owner is a central factor in influencing the financing decisions of small firms. Thus, identifying the differences between preferences and practices requires studying owner characteristics. Such an examination is particularly important when regulated capital & money markets are not completely open for small firms (Berger et al., 2001). Within emerging economies, government regulations and regulatory bodies are not flexible enough to accommodate the financing requirements of small firms. In fact, regulations sometimes discourage lending from formal

sources (Lucey et al., 2016). As a result, a gap exists between formal and informal financial resources. Furthermore, switching among financing sources is often uneconomical for SMEs.

Indian SMEs must bridge the funding gap to realize their potential growth (IBEF, 2013). To fill the financing gap, one needs to gauge around the type of financing decisions taken by firms. Prior studies document that capital structure theories do not appropriately justify the financing behaviour of SMEs in developing economies (Borgia & Newman, 2012). However, managerial theories do a better job of explaining the capital structure of SMEs compared to conventional financing theories (Hackbarth, 2008; Ang et al., 2010; Ruan et al., 2011). It is because no distinction exists between ownership and control in small firms resulting in the owner making most of the decisions. Thus, SMEs owners play a pivotal role in determining the requisite financing. According to Ang et al. (2010), an owner's individual demographic features help to explain the capital structure of small firms.

Because ownership concentration is typically high in SMEs compared to large firms, this fact leads SMEs to seeking more risk adverse sources of financing (Lappalainen & Niskanen, 2012). SMEs are more likely to focus on profit maximization rather than expansion, which hampers potential growth of this sector. It is because majority of the SMEs are proprietorship or partnership firms. These firms are highly governed by the decisions of owners. Moreover, owners have employed their personal assets into business and their portfolio is mainly restricted to their business only. This makes profit more important than investment. Morck et al. (1988) and Anderson and Reeb (2003) find a positive relation between ownership concentration and profitability. Because owners do not want to lose control of their firms, maintaining control is an important criterion to determine the capital structure of SMEs.

An optimal financing mix depends on various country, industry, firm, and owner specific factors. The interplay of these factors determines the resources chosen for funding an SME's operations. Although determining which factors dominate is difficult, recent research suggests that firms specific and owner specific factors highly influence the financing decisions of SMEs (Psillaki & Daskalakis, 2009; Borgia & Newman, 2012). Capital structure decisions also affect firm performance. Our study focuses on how firm and owner specific factors affect the financing preferences and practices of SMEs. Therefore, need and type of financing required by Indian SMEs is better understood by knowing whether the financing practices of SMEs are consistent with their financing preferences.

Financial needs of SMEs are of concern to both owners and policy makers because these firms help to enhance an economy's growth and development. Consequently, SME financing is evolving as an area of research interest around the globe. Survey research conducted in this area includes the following work: Michaleas et al. (1998) in the United Kingdom, Hussain et al. (2006) and He and Baker (2007) in the United States, Wu et al. (2008) in China, Haileselasie Gebru in Tigray (2009), Mac an Bhaire and Lucey (2011) in Ireland, Demirbas et al. (2011) in Turkey, Lappalainen and Niskanen (2012) in Finland, Klonowoski (2012) in Poland, Borgia and Newman (2012) in China, Daskalakis et al. (2013) in Greece, and Mohamed Zabiri (2013) in Malaysia. However, few survey research studies of SMEs focus on India (Dogra & Gupta, 2009; Singh et al., 2010). Thus, survey research is evolving in the field of SME financing.

RESEARCH DESIGN

This study focuses on SMEs in the north-west region of India. This region is strategically important because it lies in the upcoming Delhi Mumbai Industrial Corridor (DMIC) and offers a wide range of manufacturing and service industries. To gather data, we use a structured questionnaire modelled after previous surveys (He & Baker, 2007; Borgia & Newman, 2012; Mohamed Zabiri, 2013). Both subject matter and industry experts reviewed the survey. We administer the survey both by email and in person. We contacted the SMEs mainly through information provided by the regional MSME-Development Institute Offices of major clusters identified in the North-West region of India, industrial directories of these clusters, exhibitions and seminars conducted by MSME-DIs and SME chamber of India. The final sampling frame consists of 2789 SMEs. We contacted the owners of the 2789 SMEs by either telephone or email and 309 agreed to participate in our survey resulting in a

response rate of 11.08%. This response rate reflects an unwillingness of SME owners to discuss their business affairs and represent a potential limitation of this study.

Limitations

A potential limitation of survey research on SMEs is non-response bias because of a lack of publicly available information such as financial statements and firm characteristics of the non-respondents. Because generalizing the findings to other Indian SMEs requires caution, the findings of this exploratory study are suggestive, rather than definitive.

Given that information of respondents vs. non-respondents is unavailable, we use an approach suggested by Wallace and Mellor (1988) to test for non-response bias, which compares early to late responses. Thus, we compare 183 early respondents to 126 late respondents.

Table 1
Test for Non Response Bias

S.No.	Firm Characteristics	χ^2 Value	Degree of Freedom	p value
F1	Size	6.325	2	0.055
F2	Business Stage	5.918	2	0.052
F3	Annual Turnover	10.635	5	0.059

This table represents the results of non-response bias on the basis of firm characteristics namely firm size, business stage and annual turnover of the firm.

The study has compared responses to three firm characteristics- Firm's Size (F1), Stage of Business (F2) and Firm's Turnover (F3) - of the 183 responses that were collected during initial 4-5 months of the survey and 126 responses during the last 3-4 months. The results show the clear evidence of no significant difference between the firm characteristics at the 0.05 level. *3.2 Questionnaire Design*

The research instrument consists of four sections. The first two sections describe the features of selected firms and followed by the demographics of respondents. The next section deals with the preferred sources of financing. The questionnaire measures the preferences of SME owners using a five-point preferences scale where 1= Very low preference, 2= Low preference, 3= neither high nor low preference, 4= High preference, and 5 = Very high preference. The next question in this section measures owner preference about terms of financing (i.e., whether they preferred short-, medium- or long-term financing) using the same five-point preference scale. This section also asks SME owners to rank various sources of financing. The sources consist of six categories: (1) internal funding (owner's fund and retained earnings), (2) bank financing, (3) funding through government schemes, (4) external equity, (5) money lenders, and (6) family friends and relatives. The final section describes the current state of financing. The questionnaire uses a five-point scale to measure the proportion of current sources of financing where 1= Not at all used, 2= somewhat used, 3= moderately used, 4= highly used, 5 = extremely used. This section ends with the question asking about proportion of funds procured through short-and long-term liabilities as well as through owner's capital. The questionnaire is available with authors on request.

ANALYSIS

We use both descriptive and inferential statistical technique to analyse our data including descriptive statistics, paired t-test and Pearson's coefficient of correlation.

Assumptions of Parametric Tests Applied in the Study

Parametric tests assume that measurement of the data should be at least of interval scale (Field, 2009). Variables measured on continuous scale are financing preferences and financing practices of SMEs.

We measure these variables on five-point Likert type scales (discussed in section 3). We have used two main approaches for evaluating the normal distribution namely graphically and numerically. Normality is examined by analyzing skewness and kurtosis of data and it is found to be less than 1.

In this study, we have used F_{max} Test to examine the homogeneity of variances across firm size for all variables measured on continuous scale. We have classified firms into two groups on the basis of size namely micro (135) and small and medium (174) firms. The critical value for F distribution with degree of freedom (2-1, 309-2) is approximately 3.87. The variance ratio is less than the critical value (3.87) for all the variables; homogeneity of variance is met for the variables.

Sample Description

We describe the sample based on firm and owner's demographics. The firm characteristics are related to a firm's legal status, business stage, firm size, sector, and export activity. The sample consists of 309 SMEs of northwest India.

Table 2 presents the sample description in three panels. According to Panel A, the majority of the firms are sole proprietorships (42.7%) operate at the maturity and expansion stage of business life cycle (56.3%), and are small enterprises (50.5%) according to the MSMED Act 2006. ⁱSectorally, 82.8% of the responding firms are in manufacturing with the remaining 18% in the services industry. The vast majority (66.7%) of the firms do not engage in exports.

Panel B, which shows owner demographics, reveals that 87.4% of respondents are male; three-fourth (75.4%) are more than 35 years old, and 77.7% have either a bachelor's degree or master's degree. Most (96.8%) own the business and majority (60.8%) have more than 10 years of experience in the current business and 71.2% have high work experience.

As Panel C shows, most owners (72%) started their firms. The main motive behind the business is the respondents' entrepreneurial ability (83%).

ⁱ According to the Micro, Small and Medium Enterprise Act (MSME) of 2006, MSMEs are defined under the classification based on investment in plant and machinery and equipment in manufacturing and service industries, respectively.

	Manufacturing (Amount in Rs)	Service (Amount in Rs)
Micro	2.5 millions	1 million
Small	2.5millions-50 millions	1million-20million
Medium	50 millions-100 millions	20 million-50 million

Table 2
Sample Profile

This table presents the description of sample chosen for the study. Panel A describes the firm specific characteristics, Panel B specifies respondent's demographics and Panel C represents the others including mode of acquisition and motive behind business.

<i>Panel A</i>	FIRM SPECIFIC CHARACTERISTICS							
A1. Legal Status	Sole Proprietorship	132 (43%)	A2.Stage of Business	Incubation	33 (11%)	A3.Size of Firm	Micro	135 (44%)
	Partnership	72 (23%)		Growth	102 (33%)		Small	156 (50%)
	Private Limited	105 (34%)		Maturity & Expansion	174 (56%)		Medium	18 (6%)
A4. Sector	Manufacturing	256(83%)	A5.Export Activity	Exporters	103(33%)			
	Service	53(17%)		Non-Exporters	206(67%)			
<i>Panel B</i>	RESPONDENT SPECIFIC CHARACTERISTICS							
B1.Gender	Male	270 (87%)	B2.Age	Young (< 35 years)	76(25%)	B3.Education	School Certificate	69 (22%)
	Female	39 (13%)		Old (> 35 years)	233(75%)		University Degree	240(78%)
B4.Ownership	Yes	144(95%)	B5.Experience with Current Business	Low	50 (16%)	B6.Total Experience	Low	16(5%)
	No	8(5%)		Moderate	71 (23%)		Moderate	73 (24%)
				High	188 (61%)		High	220 (71%)
<i>Panel C</i>	OTHERS							
C1. Mode of Acquisition	Inherited	74(24%)	C2. Motive Behind Business	Entrepreneurial Ability	256(83%)			
	Purchased	12(4%)		Retrenchment	37(12%)			
	Started from Scratch	223(72%)		No Job after College	68(5%)			

Financing Preferences of SMEs

SMEs can obtain financial resources both internally and externally. Our first research question focuses on the preferred types of internal and external sources of financing by SMEs in India. As Table 3 shows regarding internal sources, 92.2% of respondents express a high/very high preference for using retained earnings closely followed by owner funds (87.7%), and funds from group companies (21%).

The questionnaire classifies external financial resources into four main groups: (1) short-term financing, (2) long-term financing, (3) other form of financing, and (4) external equity financing. Of the sources of short-term financing, Table 2 shows that the majority of SMEs express high/very high preference for bank overdraft (58.3%) and short term bank loan (47.2%) followed by cash credit (46.6%), and export-import financing (30.5%). In terms of long-term financing, SMEs favour funding from non-bank financial institutions and long term bank loans followed by long-term government financing.

Regarding other sources of financing, respondent clearly prefer trade credit, with 43.1% indicating a high/very high preference. Funds from family, friends, and relatives are the second most popular source. Respondents express a low/very low preference for money lenders and funds from other companies possibly because they charge higher interest rates. Another form of financing is external equity including venture capital, business angel, and initial public offerings (IPO). The majority of respondents express a low/very low preference for all three sources, especially financial through an IPO, which results in a loss of control and more stringent regulation as a result of listing.

As discussed above, the study has grouped the individual financial resources into five major groups namely IEF, STF, LTF, OFF and EEF. Table No. 3.1 lists the descriptive of these groups. The univariate statistics indicates that IEF has high mean score (3.55) followed by LTF (3.13), STF (2.89). OFF (2.56) and EEF (1.89) has the lowest mean value. The normality is examined by skewness and kurtosis which is almost less than 1 for every variable.

Table 3
Financing Preferences of SMEs for Different Sources

	Variables	1	2	3	4	5
IEF	Owner's Fund	1.3	4.2	6.8	36.2	51.5
	Retained Earnings	0.0	1.9	5.8	41.7	50.5
	Funds from Group Companies	60.8	11.0	7.1	18.4	2.6
STF	Short Term Bank Loan	11	21.4	20.4	46.6	0.6
	Bank Over Draft	6.1	18.4	17.2	54.4	3.9
	Cash Credit	7.4	28.2	17.8	46.0	0.6
	Export-Import Finance	60.8	6.5	2.3	18.8	11.7
LTF	Long Term Bank Loans	14.2	24.9	17.8	33.7	9.4
	Non-Banking Financial Institutions	7.8	8.7	26.2	43.0	14.2
	Long Term Financing Schemes of Government	14.2	31.1	10.7	35.0	9.1
OFF	Trade Credit	14.2	24.9	17.8	33.7	9.4
	Money Lenders	38.2	21.0	18.4	19.7	2.6
	Family Friends and Relatives	17.5	12.9	31.7	35.0	2.9
	Funds from Other Companies	87.7	7.1	0.6	4.5	0.0
EEF	Venture Capital	42.1	21	13.3	17.8	5.8
	Business Angels	43.0	22.3	10.7	16.8	7.1
	Funds through IPO	89.9	5.5	2.9	2.6	0.0

This table presents the percentage SME owners preferring various financial resources. The columns are: 1 = very low preference, 2 = low preference, 3 = neither low nor high preference, 4 = high

preference, 5 = very high preference; IEF= Internal Equity Financing; STF= Short Term Financing, LTF= Long Term Financing; OFF= Other form of Financing, EEF= External Equity Financing

Table 3.1
Descriptive Statistics for Financing Preferences

Variables	Mean	Median	STD Deviation	Skewness	Std. Error of Skewness	Kurtosis	Std. Error
IEF_PREF	3.55	3.33	0.56	0.47	0.14	0.19	0.28
STF_PREF	2.89	3.00	0.76	-0.27	0.14	-0.23	0.28
LTF_PREF	3.13	3.33	0.93	-0.50	0.14	0.18	0.28
OFF_PREF	2.56	2.50	0.64	0.16	0.14	0.20	0.28
EEF_PREF	1.89	1.67	0.91	0.59	0.14	-0.98	0.28

Where PREF=Preferences

Our second research question focuses on determined whether Indian SMEs prefer short-, medium-, or long-term sources of financing. As Table 4 shows, the majority of respondents (78 %) express a high/very high preference for short-term financing followed by medium- and long-term sources. SME owners tend to be conservative in nature and want to prefer paying lower interest rates, which are typically associated with short-term financing sources. However, they use long-term financing mainly for capital-intensive projects, when such funds are available.

Table 4
Terms of Financing

	1	2	3	4	5
Short Term Financing	4.5	8.7	8.7	56.6	21.4
Medium Term Financing	3.9	28.2	48.5	14.9	4.5
Long Term Financing	17.8	20.4	35.9	19.1	6.8

This table presents the percentage SME owners exhibiting their preferences towards terms of Financing. The columns are: 1 = very low preference, 2 = low preference, 3 = neither low nor high preference, 4 = high preference, 5 = very high preference

Our third research question involves determining the ranking among internal and external financing sources. As Table 5 shows, an overwhelming majority of responding SMEs (72.4%) select internal funding as their first choice for the funding business operations while 60.5% choose external equity as their last choice for funding. The second most highly rank source is bank financing.

Table 5
Ranking of the Preferable Internal and External Source of Financing

Ranking of the Source of Funds	First Choice	Second Choice	Third Choice	Fourth Choice	Fifth Choice	Last Choice
Internal Funding	83.2	11.3	3.2	1.6	0.0	0.6
Bank Financing	12.9	57.3	17.2	10.4	1.0	1.3
Govt. Funding Schemes	2.9	7.4	30.7	28.8	25.6	4.5
Family Friends and Relatives	0.6	22.0	27.8	24.9	13.6	11.0
Money Lenders	0.6	0.6	13.3	24.9	37.2	23.3
External Equity	0.6	1.6	4.5	4.9	17.2	71.2

This table presents the percentage SME owners assigning rank to various financial resources as per their preference.

Tables 3-5 highlight the preferred financing resources of Indian SMEs. Our next research question examines whether the preferences and actual practices of Indian SMEs involving financing sources are consistent. The next section describes the financial practices of the sample of Indian SMEs.

Financing Practices of SMEs

Having identified the preferences of Indian SMEs involving financing sources, we now turn to examine the actual financing sources used. As Table 6 shows, Indian SMEs exhibit frequent usage of internal funds as reflected owner funds. The usage of short-term liabilities is higher than long-term liabilities. This might be due to the reluctance of financial institutions in providing loans to small businesses or due to information asymmetry (Kumar & Rao, 2015).

Table 6
Financing Practices of SMEs for Different Resources

	Variables	1	2	3	4	5
IEF	Owner's Fund	0.0	1.9	7.1	46.0	45.0
	Retained Earnings	1.9	0.6	6.5	39.5	51.5
	Funds from Group Companies	69.6	10.7	3.2	14.6	1.9
STF	Short Term Bank Loan	0.0	33.0	27.2	19.7	20.1
	Bank Over Draft	25.9	9.1	12.3	49.2	3.6
	Cash Credit	20.4	17.5	17.2	41.1	3.9
	Export-Import Finance	70.9	7.8	13.6	7.1	0.6
LTF	Long Term Bank Loans	32.7	20.7	24.3	19.7	2.6
	Non-Banking Financial Institutions	62.1	11.7	19.1	6.5	0.6
	Long Term Financing Schemes of Government	75.4	10.7	6.5	7.4	0.0
	Funds through Fixed Deposit	56.6	20.4	16.8	6.1	0.0
OFF	Trade Credit	9.7	7.1	14.6	45.3	23.3
	Money Lenders	36.9	11.7	26.9	23.3	1.3
	Family Friends and Relatives	16.8	7.8	29.8	39.2	6.5
	Funds from Other Companies	83.5	12.0	13.0	2.6	0.0

This table presents the percentage SME owners practicing various financial resources. The columns are: 1 = not at all used, 2 = somewhat used, 3 = moderately used, 4 = highly used, 5 = extremely used

Although similar to Table 3, Table 6 presents the percentage of Indian SMEs using different financial sources whereas Table 3 reports their preferences. As Table 6 shows, 84.2% of respondents use owner funds and 86.2% rely on retained earnings. As Table 3 shows, a lower percentage of respondents express a high/very high preference for using owner funds (87.7%) but a similar preference for using retained earnings (91%). The difference between preferences and practices for using owner funds is likely the scarcity of funds from external sources or other obstacles that restrict firms in using alternate financing sources.

Regarding short-term financing, Table 6 shows that a majority of SMEs report using a high/very high proportion of cash credit and bank overdrafts. However, only a small percentage report using a high/very high proportion of different long-term financing sources. A total of 22.3% of respondents report using long-term bank loans but only 7.1% use funds from non-banking financial institutions and government funding schemes. Among informal source of financing, respondents most commonly use trade credit followed by family friends and relatives and money lenders. External equity financing is not at all used by the respondents.

Table 6.1 exhibits descriptive statistics of financing practices. The univariate statistics indicates that IEF has high mean score (3.47) followed by OFF (2.6), STF (2.43) and LFF (1.82) has the lowest mean value. The normality is examined by skewness and kurtosis which is almost less than 1 for every variable. On comparing table 3.1 with 6.1, it is clearly visible that other form of financing are more utilized. Trade credit is most popular alternative form of financing. The descriptive evidently indicates towards the frequent usage of informal financial sources as compared to formal resources. According to De (2010) informal sources contribute 50 % to the total funding of SMEs in India.

Table 6.1
Descriptive Statistics of Financing Practices

Variables	Mean	Median	STD	Skewness	Std. Error of Skewness	Kurtosis	Std. Error
IEF_PRAC	3.468	3.333	0.541	0.374	0.139	0.831	0.276
STF_PRAC	2.430	2.500	0.830	-0.363	0.139	-0.868	0.276
LTF_PRAC	1.823	1.750	0.646	0.439	0.139	-0.772	0.276
AFF_PRAC	2.600	2.750	0.652	-0.389	0.139	-0.687	0.276

Where PRAC=Practice

Association between Financing Preferences and Practices

Our fourth research question seeks to determine whether the stated preferences and actual practices of Indian SMEs concerning financing sources are similar or different. The questionnaire uses five-point scales to measure the level of financing preferences and practices. we use Pearson's correlation coefficient to measure the strength association between financial preferences and practices. Table 7 reports the correlation measures and there is statistically significant positive relationship between IEF_PREF and IEF_PRAC (0.654). An increase in owner's preference for internal financing will lead to the high usage of internal funds and personal assets. Results also depict positive correlation between STF_PREF and STF_PRAC (0.620), LTF_PREF and LTF_PRAC (0.383) and OFF_PREF and OFF_PRAC (0.672). Therefore, high level of preference will lead to high utilization of financial resources. But, one also needs to analyse that does the high preference for financial resources actually convert into high usage of those financial sources. We have used paired t test to examine the difference between them.

Table 7:
Correlation between Financing Preferences and Practices of SMEs in India

	IEF_PREF	STF_PREF	LTF_PREF	OFF_PREF	EEF_PREF
IEF_PRAC	0.654**	0.036	0.111	0.241**	-0.049
STF_PRAC	0.077	0.620**	0.373**	0.237**	-0.035
OFF_PRAC	0.179**	0.151**	0.014	0.672**	-0.217**
LTF_PRAC	0.002	0.251**	0.383**	0.039	-0.037

Where PREF=Preferences, PRAC=Practices; *, **, indicates significant correlation coefficient at .01 and .05 significance level

This table illustrates the measures of association between financing preferences and practices of SMEs in India.

To study whether differences exist between financing preferences and practices, we also conduct a paired t test among similar groups. Paired sample t test is used to compare the means of two correlated samples. It is found that there is a statistically significant difference between IEF_PREF and

IEF_PRAF, STF_PREF and STF_PRAF, LTF_PREF and LTF_PRAF at the significance level of .001. However there is no significant difference between OFF_PREF & OFF_PRAF.

It evidently points towards the deliberate usage of informal sources of financing. It is also noted that SMEs prefer to use formal resources but they are not able to utilize these resources. It clearly indicates towards the fact that SME owners are facing problems in availing funds from the formal resources. The plausible reasons can be explained on the grounds of demand and supply of funds. SMEs are not able to access funds because of their improper accounting records, poor financials, no disclosure of actual income due to taxation, high interest rates. It might be because of reluctance of financial institutions in providing loans to SMEs over and above the specified limit, complex collateral requirement and higher moratorium period. Therefore, firms will try to procure funds from other financial resources. This might be the probable basis of no significant difference between financing preferences and practices of OFF.

Table 8

Difference between Financing Preferences and Practices of SMEs

Pairs	Mean Differences	STD	t- stat	Degree of Freedom	p value
IEF_PREF - IEF_PRAF	0.079	0.458	3.022	308	0.003*
STF_PREF - STF_PRAF	0.456	0.697	11.485	308	0.000*
LTF_PREF - LTF_PRAF	1.310	0.904	25.457	308	0.000*
OFF_PREF - OFF_PRAF	-0.045	0.524	-1.521	308	0.129

Where PREF=Preferences, PRAF=Practices; *, indicates significant correlation coefficient at .01 significance level

CONCLUSION

This study identifies and analyse the financing preferences and practices of SMEs owners in India and determines whether they are similar or different. SMEs not only express a preference for using internal sources such as owner funds and retained earnings as their primary source of financing but also use these sources. SMEs also prefer formal STF and LTF but these sources are not utilized by these firms as per their requirement. Therefore, SMEs are making use of trade credit, funds from family friends and relative and funds from money lenders. This makes higher utilization of informal resources as compared to formal financing resources among Indian SMEs. The financing preferences and practices exhibit moderate association between them. The study also discloses the statistically significant difference between financing preferences and practices of SMEs in India. The difference is highly visible in formal lending as compared to informal lending.

The work contributes towards the awareness of financing behavior of small firms in India. It helps in assisting the policy makers in improving the credit environment of SMEs. Since, the majority of the owners have started their business from the scratch and it is mainly driven by their entrepreneurial skills. This study indirectly helps in the social up-liftment of owners by suggesting the policy makers in making lending environment more conducive and benevolent. Finally the study contributes to the extant body of knowledge by providing evidence on financing preferences and practices of SMEs in India. Future research can be extended to the behavioural aspects of SMEs owners and influence of social capital and relationship lending in deciding financial structure of the firms.

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IMPACT OF DIVERSIFICATION ON EFFICIENCY OF COMMERCIAL BANKS: EVIDENCE FROM VIETNAM

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ABSTRACT

Vietnam's economy whose banking system dominates the financial market has been struggling to restructure, reform governance and build up merge and acquisition. This paper aims to address at which level of efficiency the Vietnamese commercial banks are operating and how diversification affects its efficiency. Diversification is investigated in three dimensions: assets, income and funding using the modified Herfindahl-Hirschman Index (HHI), applied to a sample of Vietnamese commercial banks over 10-year period 2006 - 2015. The efficiency score is obtained using the intermediation model of banking activity.

Keywords: Data Envelopment Analysis, Bias-corrected score, Vietnamese Commercial Banks, Diversification, Intermediation approach.

INTRODUCTION

The economic development and the improvement in living standards of a nation are fundamentally contributed by an efficient banking system whose expansion and innovation reflect the increases in demand of more complex financial services, which requires banks to diversify. In fact, the diversification strategy is crucial for a bank's capability to perform efficiently as a financial institution, for which credit portfolio diversification can increase banks' efficiency and reduce the credit portfolio risk. Accordingly, traditional services of lending and deposit are no longer the only dominant profit-making activities of banking industry. In addition, banks diversify assets through holding securities for both purposes of trading or investing. To become more competitive, domestic commercial banks also diversify non-interest income with fees, commission and foreign exchange transactions.

This paper aims to investigate the efficiency and the impact of diversification on efficiency of Vietnamese banking system. First, the degree of diversification is examined in three aspects: income, asset and funding using the modified Herfindahl-Hirschman Index (HHI), while efficiency scores of Vietnamese commercial banks are measured by Data Envelopment Analysis (DEA). Next, the study examines the linear relationship between diversification and DEA efficiency scores, using bootstrap bias-corrected scores.

LITERATURE REVIEW

Literature on Bank Technical Efficiency

Technical Efficiency is defined as the ratio between input and output of a firm. Technical efficiency measures the capability of banking management in deployment of technology, staff and other resources to produce a given a level of output. To evaluate the relative efficiency of Decision Making Units (DMUs), or bank specifically in this study, Data Envelopment Analysis (DEA) (Farrell, 1957; Charnes et al., 1978) is one of the most critical non-parametric applied in efficiency research. The DEA approach identifies the most efficient units in the set of DMUs to sketch a frontier which bounds other less efficient units. In developed countries, DEA approach has been applied widely to examine efficiency while in developing countries, the number of studies applying the approach remains modest (Singh & Gupta, 2013).

In Vietnam, by using the the Malmquist index, Nguyen and DeBorger (2008) conducted a research on 15 Vietnamese commercial banks' efficiency and productivity over the period 2003 -2006. In addition, Ngo (2010) evaluated the efficiency of 22 Vietnamese commercial banks in 2008 under

input-oriented DEA with variable return to scale. The total assets, interest income and other income were chosen as outputs while wages, interest expenses and other expenses were treated as inputs. The research concluded that the average technical efficiency scores of Vietnamese commercial banks approached the frontier optimal score, which can be interpreted that the Vietnamese commercial banks in 2008 were relatively efficient.

DEA approach has the advantage of requiring no functional or distributional forms, while all deviations from the frontier are attributed to inefficiency.

Bootstrap Bias-Corrected DEA Score

Besides all known advantages of DEA approach, the tradition DEA has its own drawbacks. First, DEA is as a putatively deterministic method, in which stochastic phenomena such as error measurement is ignored and confidence intervals and other types of statistical inference are not allowed; as a result, failures to take into account of stochastic factors is relative problematic since the DEA construction of the frontier shall be very sensitive to outliers.

Second, the basic DEA approach has the problem with the construction of production frontiers based on the estimates, while consistent, is biased. This is because the construction constructs a lower bound on the true frontier at best; which indicates that it identifies a “best practice” frontier rather than the “true” frontier.

As a result, Simar and Wilson (1998) found a remedy of these problems. By using bootstrap method, they designed a procedure for consistent estimation of the production frontier and the efficiency scores, with representation of standard errors and confidence intervals. The starting point of the analysis is after the bootstrapping procedure has been completed, the statistical procedures mentioned as above can also be used to reconstruct the frontier.

Literature on Combination of Diversification and Efficiency

Curi, Lozano-Vivas and Zeneyuk (2014) have examined the foreign bank diversification in three dimensions: assets, income and funding , in which technical efficiency is used to figure out whether there is the best business model that fit all foreign banks in Luxembourg in three periods: consolidation period (1995-2000); pre-crisis (2001-2006) and crisis (2007-2009). The research have generated the degree of diversification in the three aspects and level of technical efficiency by applying a modified **Herfindahl-Hirschman Index (HHI)**. For asset diversification, they considered significant activities of foreign banks such as customer loans, interbank loans, government securities, fixed income securities and other securities. Regarding to diversification in funding, the researchers concentrated on specific categories such as equity, interbank deposits, customer deposits, short-term money market funds and long-term capital market funding. For income diversification, there are four components including interest income, commission income, net profit from other operations and other non-interest income (service charges, fiduciary income, trading income, etc.). To calculate technical efficiency scores, Curi and his colleagues applied DEA with group-efficiency scores à la Farrell (greater than unity).

Up to the time of data finalization, the number of studies in Vietnam which investigate the impact of diversification in asset, funding and income dimensions on Vietnamese banks efficiency is modest. Hence, this study is to identify the relationship between degree of diversification and technical efficiency scores of commercial banks, with the application of bootstrapping technique. Following Curi et al. (2014), the adjusted Herfindahl-Hirschman Index (HHI) is applied to construct the level of asset, funding and income diversification. Diversification is computed by subtracting HHI from unity so that DIV increases with degree of diversification (Elsas et al., 2010)

METHODOLOGY

Data Sample and Construction of Variables

For asset diversification (**ADIV**), we concentrate on the most critical categories for Vietnamese commercial banks, i.e., interbank loans (**IBLOAN**), customer loans (**CLOAN**), trading securities

(TRSEC), investment securities (INSEC) and the denominator - earning assets (EA) are the sum of those four categories. Thus, for each bank i at time t , we calculate:

$$ADIV_{i,t} = 1 - \left(\left(\frac{IBLOAN_{i,t}}{EA_{i,t}} \right)^2 + \left(\frac{CLOAN_{i,t}}{EA_{i,t}} \right)^2 + \left(\frac{TRSEC_{i,t}}{EA_{i,t}} \right)^2 + \left(\frac{INSEC_{i,t}}{EA_{i,t}} \right)^2 \right)$$

Secondly, for funding diversification (FDIV), we used on equity (EQUI), interbank deposits (IBDEP), customer deposits (CDEP), valuable papers (VAPA) and funding (FUND) is the denominator which is the sum of EQUI, IBDEP, CDEP and VAPA. Hence, for each bank i at time t , we will have the following:

$$FDIV_{i,t} = 1 - \left(\left(\frac{EQUI_{i,t}}{FUND_{i,t}} \right)^2 + \left(\frac{IBDEP_{i,t}}{FUND_{i,t}} \right)^2 + \left(\frac{CDEP_{i,t}}{FUND_{i,t}} \right)^2 + \left(\frac{VAPA_{i,t}}{FUND_{i,t}} \right)^2 \right)$$

Lastly, for income diversification (IDIV), we consider on interest income (II), fee and commission income (NFC), net profit from other operations (NPFO). Non-interest income contains two main categories: fee and commission income and other operating income. The total operating income (TOI) is the sum of those three categories. Thus, for each bank i at time t , we have:

$$IDIV_{i,t} = 1 - \left(\left(\frac{II_{i,t}}{TOI_{i,t}} \right)^2 + \left(\frac{NFC_{i,t}}{TOI_{i,t}} \right)^2 + \left(\frac{NPFO_{i,t}}{TOI_{i,t}} \right)^2 \right)$$

For control variable, it is suggested in many banking literature that diversification increases with the size of bank balance sheets (Demsetz & Strahan, 1997). We therefore include the logarithm of total assets (Size) to control for a potentially nonlinear relationship between bank size and efficiency.

In addition, the banking literature also suggests that higher capital ratios are associated with better management. We use the ratio of equity book value to total assets (ETA) as a proxy for **Risk control** variable. According to Berger et al. (2010), this is approximately equal to the bank's tier 1 capital ratio. A high ratio represents low leverage and therefore lower risk (Pasiouras, 2008, among others). Empirical evidence suggests that financial capital may significantly impact on bank cost and profit efficiency (Altunbas et al., 2007). In addition, Curi et al. (2013) found out that well-capitalized banks in Luxembourg tend to score higher in technical efficiency.

Measures of Technical Efficiency: Bootstrap Data Envelopment Analysis

In order to evaluate banking efficiency, there are some approaches, including parametric and non-parametric approaches. The parametric approach focuses on and estimates production or cost function based on regression model (Banker & Mairandiratta, 1988). However, the assumptions are not rational when the sample size is small and nonparametric approach is preferred. Non-parametric approach estimates the optimal production or cost level of a selected sample with multiple input and output data.

This paper uses the primary non-parametric approach - Data Envelopment Analysis (DEA) which allows researchers to independently choose inputs and outputs and there is no need of any parametric consumption about the distribution of inefficiency or production relationship. In addition, DEA can handle even some inputs or outputs are zero, which is essential in banking system where zero values might present strategic decisions.

Let I represents firms with N **inputs** and M **outputs**, where x is denoted as an **input matrix** ($N \times I$) while y as an **output matrix** ($M \times I$); the ratio $u'y_i/v'x_i$ could be obtained with u is and $M \times 1$ **vector** and v is and $N \times 1$ **vector** respectively. The optimal u, v is calculated as below:

$$\begin{aligned} & \max_{u,v} (u'y_i/v'x_i), \\ & \text{such that } u'y_j/v'x_j \leq 1, \quad j = 1, 2, \dots, I, \\ & u, v \geq 0 \end{aligned}$$

Output-oriented approach

With the purpose of keeping inputs level fixed while evaluating ability to maximize outputs, the transformation of envelopment is presented as below:

$$\begin{aligned} & \max_{\phi, \lambda} \phi, \\ & \text{st } -\phi y_i + Y_{\lambda} \geq 0 \\ & \quad x_i - X_{\lambda} \geq 0 \\ & \quad \mathbf{1}'\lambda = 1, \lambda \geq 0 \end{aligned}$$

The proportional increase in outputs level achieved with input held constant was represented in the Sigma moves from 1 to infinity, with bootstrapping technique which will be applied in PIM-DEAsoft V3 later. The output orientation is chosen since in this study, it is believed that given available production factors, the Vietnamese commercial banks attempt to maximize its outputs. Figure 1 display how a firm can maximize its outputs from given inputs level, the IsoP(x) efficient frontier is represented as:

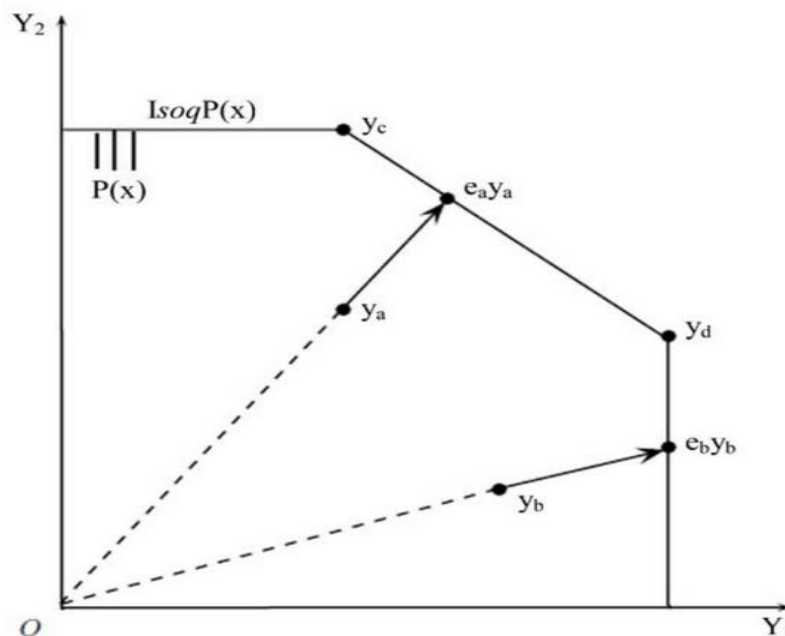


Figure 1. Representation of Debreu-Farell Output-oriented DEA
Source. Francesco Porcelli - Measurement of technical efficiency (2009)

There are two approaches of collecting inputs and outputs: intermediation approach and production approach. The production approach considers banks use capital and labor as an input to produce deposits and loans while regarding intermediation approach, deposits are considered to convert into loans. In this paper, efficiency of bank is measured by intermediation approach (Sealey & Lindley, 1977; Curi et al., 2014). The variables are classified as following:

Table 1
Chosen variables for DEA approach

Input Variables	Customer Deposits (CDEP)
	Total Operating Expenses (TOE)
	Fixed Assets (FA)
Output Variables	Customer Loans (CLOAN)
	Total Operating Income (TOI)

We adjust the variables according to output-oriented, consistent with the view of the ability to maximize outputs while keeping the inputs fixed.

In addition, either Constant Returns to Scale (CRS) or Variable Returns to Scale (VRS) model can be applied to calculate technical and scale efficiency. The CRS assumption is only applicable when all DMUs perform at optimal scale. However, due to imperfect market and other conditions, DMUs cannot be able to operate at optimal scale. As a result, CRS is extended to VRS to be more flexible, in which VRS allows calculating technical efficiency without disturbances of scale efficiency in case the DMUs do not operate at optimal scale.

Hypothesis and Regression Analysis

In the second stage of analysis, the efficiency scores are regressed against asset diversification, funding diversification, income diversification, with risk control and size to act as control variables. The following panel model was estimated:

$$VRSTE = \alpha_0 + \beta_1 ADIV_{it} + \beta_2 FDIV_{it} + \beta_3 IDIV_{it} + \beta_4 Size_{it} + \beta_5 Risk\ Control_{it} + \varepsilon_{it}$$

H1: Asset diversification (ADIV) affects positively on technical efficiency scores

H2: Funding diversification (FDIV) affects positively on technical efficiency scores

H3: Income diversification (IDIV) affects positively on technical efficiency scores

H4: Size affects positively on technical efficiency scores

H5: Risk control affects positively on technical efficiency scores

Data

The study examined a balanced panel data of 22 Vietnamese commercial banks over the 10-years period 2006-2015. The data was collected from Vietnamese commercial banks audited financial statements, reporting under Vietnamese Accounting Standard (VAS).

DATA ANALYSIS AND RESULTS

Descriptive Statistics of DEA Inputs and Outputs

The study adopted the intermediation approach of DEA since the focus was the intermediation efficiency. It sought to evaluate the efficiency with which Vietnamese commercial banks' customer deposits, total operating expenses and fixed assets to advance loans to the customers and also total operating income. Table 2 presents the descriptive statistics of these inputs and outputs. It can be observed that the mean customer deposits amounted to VND 75,588 billion with a standard deviation of VND 99,644 billion. Total operating cost had a mean of VND 1,738 million with a standard deviation of VND 2,234 million. The trend is the same for all other variables where the standard deviation is significantly higher than the mean which shows that the data is highly spread. This can also be seen from the difference between the maximum and minimum values. This indicates that Vietnamese commercial banks included in the study differ significantly in their scale of operation.

Table 2

Descriptive Statistics of Inputs and Outputs

Variable	Observation	Mean	Std. Dev.	Min	Max
CDEP	220	73,588.1	99,643.76	368.00	56,4583.1
TOE	220	1,738.0	2,234.37	4.29	11,087.18
FA	220	1,350.95	1,718.41	5.38	8,872.165
CLOAN	220	63,768.95	95,821.57	353.49	59,0917.4
TOI	220	3,811.41	5,128.542	25.49	24,712.16

Bias Corrected Efficiency Scores

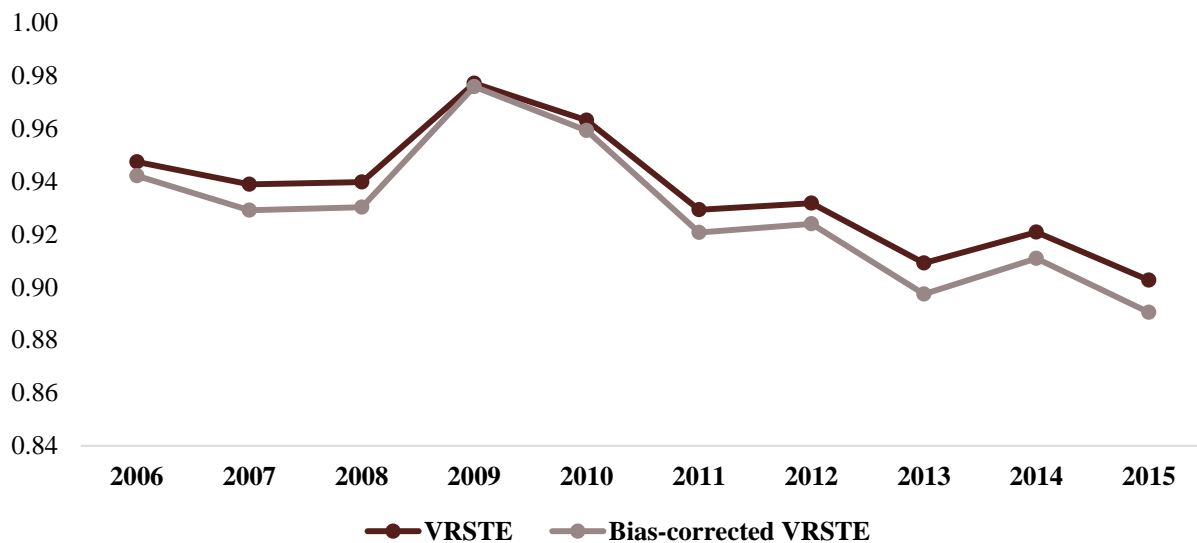
Only the result of a regression model is valid when basic assumptions of the regression analysis are satisfied. One such assumption is the assumption of independence within the sample. Simar and Wilson (1998) indicated that efficiency scores generated by DEA models are clearly dependent on each other from statistical perspective. The reason for dependency is the well-known fact that the DEA efficiency score is a relative efficiency index, not an absolute efficiency index. The calculation of the DEA efficiency of one DMU involves all other DMUs in the observation set (Xue & Harker, 1999).

Table 3
Summary of Bias Corrected Efficiency Scores

Year	VRSTE	Bias-corrected VRSTE
2006	0.9474	0.9421
2007	0.9389	0.9291
2008	0.9398	0.9303
2009	0.9772	0.9759
2010	0.9632	0.9593
2011	0.9293	0.9207
2012	0.9318	0.9240
2013	0.9091	0.8974
2014	0.9208	0.9109
2015	0.9026	0.8905
Average	0.9360	0.9280

As a result, the bias-corrected DEA using bootstrapping is applied. The summary of the results are shown in Table 3. The results indicate that, in the year 2011, the Variable Return to Scale Technical efficiency (VRSTE) score was 0.936 whereas the bias corrected VRSTE was **0.928**. The trend in which the VRSTE scores are higher than the bias corrected scores is replicated in all examined years. This is in line with the expectation since the DEA efficiency scores tend to be overstated due to sampling bias. According to Tziogkidis (2012), the DEA sampling bias is associated with the fact that the observed sample is drawn randomly from an underlying, unobserved population and the efficiency scores of the DMUs in the sample depend on the DMUs that define the frontier. This causes DEA efficiency scores to be overestimated in comparison with the “true” frontier. As a result, the bias corrected DEA scores replaced the traditional DEA score for purposes of regression analysis.

Graph 1
Summary of Bias Corrected Efficiency Scores



From Graph 1, we can notice that the banks experienced a decline of overall technical efficiency over the ten year period, especially from 2011-2015. Interestingly, the most critical response of the government during this period is the detailed banking-restructuring plan for 2011 – 2015, in which the process focuses on recapitalization of commercial banks, resolution of liquidity issues, and reduction of NPLs through establishment of Vietnam Asset Management Company (VAMC), consolidation (M&A activities), changes in interest rate and credit policies. However, as can be seen that despite of such plans, the efficiency of Vietnamese commercial banks has suffered from wasting the resources over time.

Diagnostic tests

In order to figure out the most suitable regression model among pooled, fixed effect and random effect to explain the relationship between efficiency scores and diversification, we employ F-test and Hausman-Wu test. The F-test statistic equals 6.28 with the p-value 0.0000, which means that the null hypothesis that all of fixed effect intercepts are jointly zero ($H_0: \mu_0 = \mu_1 = \dots = \mu_n = 0$) is statistically rejected. As a result, fixed effect statistically exists within panel data and is more applicable to be employed than Ordinary Least Square model. Secondly, by employing Breusch-Pagan LM test under χ^2 chi-square distribution, Wald Chi2(4) is 26.02 and supporting by p-value = 0.0001, which means that the variances of coefficients vary and there is an existence of random effect in the panel data. Because the panel data contain both fixed and random effects, to decide between fixed effect and random effect model (Park, 2010), Hausman test is employed and the p-value is $0.0081 < 0.05$, which means the null hypothesis is significantly rejected and we should employ fixed effect model to analyze the connection between banking diversification and efficiency.

Test for Multicollinearity, Heteroscedasticity, Autocorrelation and Time-Fixed Effects.

Pearson (Pair-wise) test and VIF for multicollinearity, the Breusch-Pagan/ Cook-Weisberge test for heteroscedasticity, Wooldridge test for serial correlation and joint test for time-fixed effect are applied and revealed that there is a problem of heteroscedasticity and autocorrelation, while there is problem with multicollinearity, no significant time affects and therefore no need to introduce dummy variables.

Driscoll and Kraay's (1998) Robust Standard Errors to Heteroscedasticity and Serial Correlation for Panel Data

The presence of heteroscedasticity and autocorrelation violate the assumptions of CLRM so the standard errors are biased under OLS covariance matrix estimation. White (1980 and 1984), Newey and West (1987), Driscoll and Kraay (1998) upgraded technique to estimate covariance matrix cooperating with robust standard errors to correct both heteroscedasticity and autocorrelation. In this

study, Driscoll-Kraay test is applied to allow residuals be heteroscedasticity and autocorrelation up to some lag $m(T)$ so that only $MA(q)$ of the errors are considered since AR can be well estimated by finite-order MA.

Table 4
Descriptive Statistics for the Study Variables

Variable	Observations	Mean	Std. Dev.	Min	Max
VRSTE Bias-corrected	220	0.927999	0.108595	0.56399	1
ADIV	220	0.503	0.123527	0.087796	0.673946
FDIV	220	0.496089	0.116345	0.163949	0.722105
IDIV	220	0.132569	-0.08822	0.016177	0.638444
Size	220	31.59426	1.374109	27.44139	34.37704
Risk Control	220	0.110955	0.06439	0.037043	0.462596

As mentioned in the methodology section, by subtracting HHI from unity, the higher the indexes of ADIV, FDIV and IDIV, the higher the level of diversification. From the Box and Whisker plot, it is noticed that the degree of diversification in ADIV, FDIV, and IDIV varies among Vietnamese commercial banks. However, the level of FDIV diversification tend to decreased over time, which may lead to changes in efficiency level of banks from 2012-2015 period. In contrast with FIDV, the level of risk control between banks has reduced their gaps over time; which can be seen from the shape of the box and whisker of risk control.

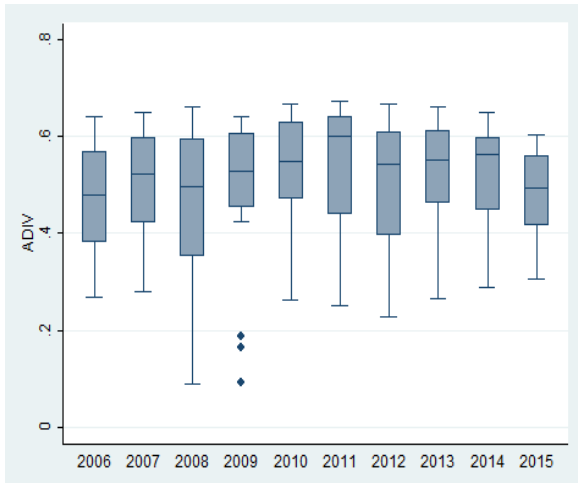


Figure 2. Box-plot of ADIV

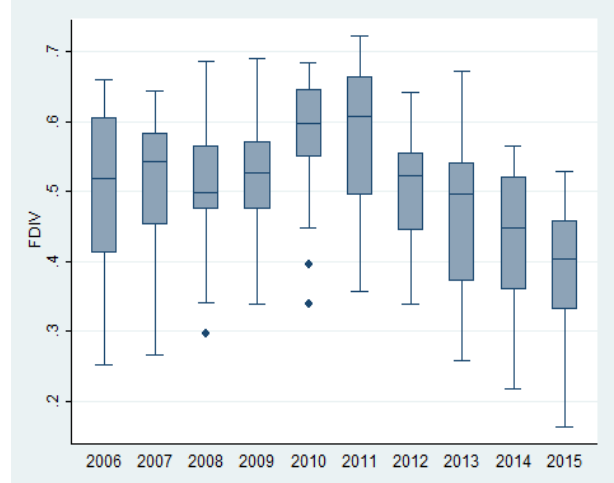


Figure 3. Box-plot of FDIV

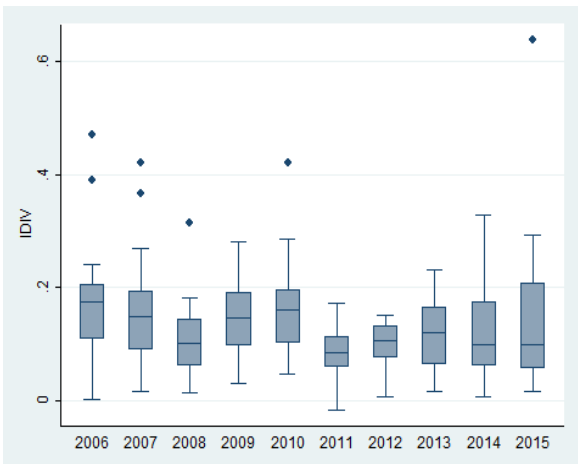


Figure 4. Box-plot of IDIV

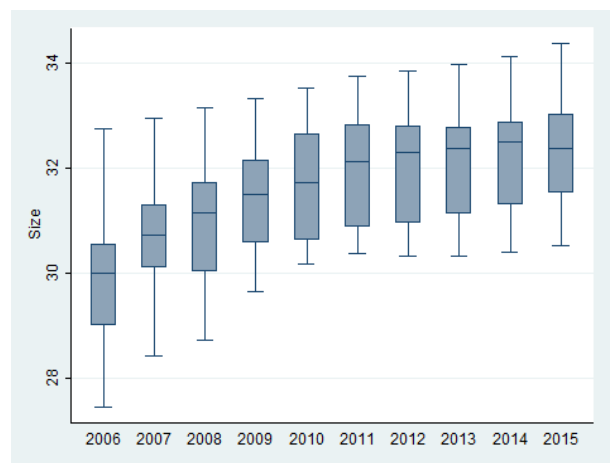


Figure 5. Box-plot of Size

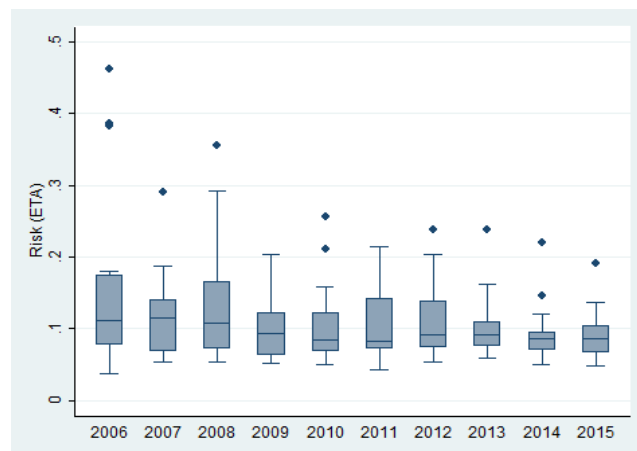


Figure 6. Box-plot of Risk Control

Regression Results

Table 5 summarizes the results of regression analysis to estimate the relationship of diversification and efficiency scores of 22 Vietnamese commercial banks. The redundant fixed effects and Hausman-Wu test (1978) are employed to determine which empirical model is the most suitable to present the impact of diversification on banking efficiency. Besides, the panel data suffers the problem of heteroscedasticity and autocorrelation that need to correct. As a result, the regression results from fixed effect model with Driscoll-Kraay (1998) robust standard error to correct both heteroscedasticity and autocorrelation is statistically significant at alpha level of 1%, which means the model fits the panel data well and positive coefficients demonstrate a positive impact on technical efficiency. However, funding diversification and income diversification significantly impacted on efficiency scores asset diversification and size provided insignificant results.

Table 5
Regression Results

	Pooled	Fixed effect	Random effect	Driscoll-Kraay test
(Constant)	.2480944	.5939534	.4128557	.5939534
ADIV	-.21706***	-.0005955	-.074974	-.0005955
FDIV	.18984**	.259973***	.2438***	.25997***
IDIV	.18359**	.148025*	.17055**	.1480***
Size	.02009**	.004637*	.0117472	.0046363
Risk Control	.3245**	.35395**	.34353**	.35394**
Test statistic		6.28***	26.02***	73.85***
Redundant F -test	6.06***			
Hausman Test		15.6***		
R² - Overall	7.29%	2.03%	5.13%	13.99%

Note. ADIV = Asset Diversification; FDIV = Funding Diversification; IDIV = Income Diversification; Size = $\ln(\text{Total Assets})$; Risk = Equity to Asset ratio * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

The significant positive relationship between funding diversification and efficiency

From the Table 5, the funding diversification revealed positive coefficient 0.25997, which is statistically significant. In another word, the efficiency of the banks (bias-corrected) shows that diversified banks benefitted with higher efficiency levels compared to focus banks over the 10 year periods. This result is in line with current practice of Vietnamese commercial banks over the period. Interestingly, over the 2006-2011 period, Vietnamese banks diversified its non-deposit funding sources and in accordance with the stronger growth rate of asset, resulted in higher efficiency score, while decline in funding diversification of the following years lead to lower DEA efficiency.

The significant positive relationship between income diversification and efficiency

For the IDIV, the empirical results are consistent with those of Maghyreh and Awartani (2014) and Sufian (2009) but contradict those of Elyasiani and Wang (2012) and Huang and Chen (2006). The positive relationship implies that income diversification improve efficiency through fewer idiosyncratic risk and increased incentives to monitoring. This is consistent with the view of the portfolio theory that diversification into non-interest income would reduce volatility and enhance returns. In addition, during the period of 2006-2015, actually there were many banks whose profits from other activities resulted higher than traditional interest activities. The logical explanation for this phenomenon is that as the management started making diversification, they reduce the risk of loss from loans and non-performing loans in recent years, which increased the provision of credit to members.

The significant positive relationship between risk control and efficiency and the insignificant between ADIV and efficiency.

As has been point out that domestic banks has shifted to finance more by non-deposit funding, increasing leverage and reduced the portion of equity. However, the result revealed that while the diversification lead to increases in assets growth and diversification and decreases in risk control, those asset quality may suffer from generating sufficient income for the banks. Specifically, the application of laws and regulations on disclosure of non-performing loans has led to the building up of non-performing loans and struggles to generate sufficient income from those assets, which has been reflected in the declining DEA score of Vietnamese commercial banks over time.

CONCLUSION

Our main findings reveal that funding diversification, income diversification and risk control strategy brings statistically significant positive impact on banking efficiency. The diversification of funding seems to be consistent with the traditional meaning and purpose of diversification strategy which provide the higher efficiency with higher level of diversification. Despite the impact of size and asset diversification are ambiguous but the variables should be incorporated in the regression model to explain the variation of technical efficiency. Even though the insignificant negative impact of size and asset mix draw some consideration about diversification deeply into those two dimensions because it can bring negative effects on banking technical efficiency.

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THIRD PARTY FUNDING UNDER INTERNATIONAL INVESTOR-STATE ARBITRATION: RISKS FOR RESPONDENT STATES

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ABSTRACT

The last six years have witnessed a tremendous increase in participation of third-party funders in investor-state arbitration. Even the existence of third party funding could resolve the financial concern for disputing investors, which provides them a more equal position with respect to respondent states and a chance to access to justice, but since international arbitral tribunal has in principle no competence to address third party funding agreement because such agreement is disconnected from arbitration agreement. Thus the involvement of third party funding in arbitration shall bring vital risks to respondent states, such as the risk on independence and impartiality of arbitrators, the risk on security for costs, and the risk on allocation of cost.

Keywords: Investor-State Arbitration; Third Party Funding; Security for Costs; Allocation of Cost

INTRODUCTION

The last six years have witnessed a tremendous increase in third party funding (“TPF”) participation in investor-state arbitration. TPF is defined as “any person or entity that is contributing funds or other material support to the prosecution or defense of the dispute and that is entitled to receive a benefit (financial or otherwise) from or linked to an award rendered in the arbitration” (William & Catherine, 2015) under the recent Task Force conducted by the ICCA along with Queen Mary College at the University of London. Investors might not afford to pursue claims against states due to the heavy costs associated with the investor-state arbitration mechanism, so the existence of TPF resolves the financial concern for investors, which provides them a more equal position with respect to respondent states and a chance to access to justice (Brabandere & Lepeltak, 2012). In principle, due to the *inter partes* effect of contractual agreement, investor-state arbitral tribunal lacks of the competence to address TPF agreement. TPF agreement, containing its own choice of law and dispute resolution mechanism clauses governing dispute arising out of the TPF agreement, is disconnected to the legal relations between the parties to the investment dispute. Thus even an investor to an investment dispute is funded, the tribunal is generally limited to address the investment dispute. Due to this limitation, this article aims to identify the vital risks bringing by TPF involvement to respondent states.

OVERVIEW OF TPF UNDER INVESTOR-STATE ARBITRATION

According to the recent studies, there are at least three main reasons contributing to the increase of TPF in investor-state arbitration. Firstly, due to increasing costs associated with pursuing high value investment claims, which blocks investors to initial arbitration if they lack of adequate financial means, thus TPF could help them out from the financial predicament by providing impending costs during the proceedings. In addition, potential damage awards rendered in favor of investors shall be substantial in investment arbitrations, so funding arbitration is a potentially lucrative investment for third party funders. Last but not the least, the enforcement regimes, such as the regime under the Convention of International Centre for Settlement of Investment Dispute (‘ICSID’), allow winning investors to enforce damage award in court within the territory of respondent state (Brabandere & Lepeltak, 2012).

Third party funder desires to invest high value arbitration with a high chance of success, so before effectively deciding to engage its finance in investment arbitration, the funder should routinely carry out a comprehensive due diligence investigation of its investment by the investment adviser and suitably qualified legal professionals selected by the funder. The due diligence investigation should focus on a number of factors including, but not limited to: (a) the likelihood of the claim being successful through appraising the merits, evidence, witness of the claim; (b) the quantum and the

potential return of the claim; (c) the timing of the arbitral proceedings; (d) the costs for pursuing the claim; (e) the likely costs for adverse cost order; (f) the complexity concerning award enforcement; (g) the possibility of the respondent state's counterclaims (Cremades, 2011). Pursuant to the factors listed above, the comprehensive investigation can be considered "an extra examination of the success rate of the future proceeding." (Brabandere & Lepeltak, 2012, p. 7). A recent figure shows that only a few claims examined by third party funders are successfully funded (Cremades, 2011). Since only meritorious claims will be selected and funded by TPF, so the likelihood of having frivolous claims can be decreased.

RISKS CONCERNING TPF INVOLVEMENT FOR RESPONDENT STATES

As indicated above, international arbitral tribunals have in principle no competence to address TPF agreement because such agreement is disconnected from arbitration agreement between investor and state. When third impartial tribunal reviews sovereign state's behaviours in investor-state arbitration, public interest concern will arise because damage award issued against respondent state shall have a negative impact to the state's government and citizens. So this section, in order to protect the public interest, aims to address how the involvement of TPF in arbitration would bring vital risks to respondent states, namely the risk on confidentiality of the TPF agreement, the risk on security for costs, and the risk on allocation of cost.

Risk on Confidentiality of TPF Agreement

TPF agreements normally contain confidentiality provision, which prohibits parties from disclosing the relevant information to outsiders. Indeed, investors might voluntarily disclose their funding agreements either during the phase of TPF agreement negotiation or during the course of the arbitration because "knowledge of the existence of a funding agreement may significantly affect the other side's willingness to settle the claim" (Consultation Paper, 2015) Generally speaking, whether to maintain the confidentiality of TPF agreement to third parties, especially to respondent state, shall be a strategic and tactical consideration for funder and funded investor. Thus due to the strategic and tactical consideration, the funded investor might avoid releasing its TPF agreement to the public, especially to the tribunal and the respondent state.

Non-disclosure of TPF agreements could constitute the risk on conflicts of interest of arbitrators. The Task Force conducted by the ICCA has reached at consensus that there are real and important concerns about potential conflicts of interest as between funders and arbitrators (Draft Report, 2015). Firstly, based on the fact of the increasing number of funded investor claims, the small number of leading funders, and the relationship between the funders and the law firms actively involved in investor-state arbitration, the conflicts of interest shall arise if the same tribunal member is appointed in different arbitrations by different funded parties but with the financial support of the same funder. In this scenario, TPF involvement might give rise to the concern of repeat appointment of arbitrator, even the previous appointment is not necessarily a basis for disqualification, but if the TPF is not disclosed, the respondent state might lose the right to challenge the appointment of the arbitrator on the basis of "a lack of impartiality owing to repeat appointments by the same third party funder." (Consultation Paper, 2015, para. 5.50)

In addition, TPF involvement might disqualify an arbitrator in the following scenario. Where a presiding arbitrator is appointed under mutual agreement of disputing parties to an investment dispute, especially based on the selection of funder. Subsequently, the arbitrator gets involved in any financial relationship with the funder, such as representing another claimant funded by the same funder in a different arbitration. Since the arbitrator in first arbitration will be paid by the funder for representing the latter claim, which shall be deemed as non-impartial arbitrator because of the significant contact with the funder for the purpose of representation. As to this scenario, without disclosing the TPF agreement to the tribunal and the respondent state, the respondent might face a significant risk since the presiding arbitrator's impartiality and independence have already been questioned due to the representation in the latter arbitration (Draft Report, 2015).

Risk on Allocation of Costs

There is no general system or method exists with respect to allocation of costs under international arbitration rules, and tribunals often have a large discretion on this matter. For instance, ICSID Convention, as one of the most advanced instruments governing investor-state arbitral proceedings, provides limited rules on allocations of costs. Article 61 (2) of the Convention provides:

“In the case of arbitration proceedings the Tribunal shall, except as the parties otherwise agree, assess the expenses incurred by the parties in connection with the proceedings, and shall decide how and by whom those expenses, the fees and expenses of the members of the Tribunal and the charges for the use of the facilities of the Centre shall be paid. Such decision shall form part of the award.”

Pursuant to the Article, tribunals are given a very wide discretion on costs allocation between investors and states. In *EDF v. Romania*, the claimant lost the claim, but at the same time, the respondent state has failed on the issue of attribution. The tribunal reasoned, “in the instant case, and generally, the Tribunal’s preferred approach to costs is that of international commercial arbitration and its growing application to investment arbitration. That is, there should be an allocation of costs that reflects in some measure the principle that the losing party pays, but not necessarily all of the costs of the arbitration or of the prevailing party.” (*EDF (Services) Limited v. Romania*, para. 339) And based on the findings, the claimant was ordered to pay one-third of the respondent state’s total costs. Pursuant to the case studied above, ICSID tribunals, in recent years, seem to be “moving away from the applicability of the ‘American Rule’ towards the ‘loser-pays’ principle, by adopting a ‘middle road’ approach taking into consideration the specific facts of the case.” (Brabandere & Lepeltak, 2012, p. 12).

As noted above, ICSID Convention confers on tribunals broad discretion on allocation of costs, but because the *inter partes* effect of the TPF agreement stands, ICSID tribunals have established the consistent practice not to address TPF agreement while making the determination on costs allocation. In *Ioannis Kardassopoulos and Ron Fuchs v. Georgia*, Ioannis contended that its costs, including legal representation, experts’ fees, etc., should be recovered by the respondent because it prevailed on jurisdiction as well as liability. On the contrary, the respondent state counter-argued that since the claim was funded by TPF, therefore, any costs of Ioannis incurred during the proceedings should not be awarded. The tribunal, for the first time in ICSID history, provided that:

“The Tribunal knows of no principle why any such third party financing arrangement should be taken into consideration in determining the amount of recovery by the Claimants of their costs...It is difficult to see why in this case a third party financing arrangement should be treated any differently than an insurance contract for the purpose of awarding the Claimants full recovery.” (*Ioannis Kardassopoulos v. Republic of Georgia*, para. 691)

In *RSM production Corporation v. Grenada*, RSM, during the annulment process, raised the argument that it was funded by TPF, thus did not have to pay the reasonable costs of the respondent. But the ICSID annulment committee, referring to the reasoning made in *Ioannis*, confirmed that TPF agreement should not be taken into account in determining the amount of recovery, therefore ordered RSM to pay the respondent state’s claim costs (*RSM Production Corporation v. Grenada*, para. 68-69).

Based on the principle indicated in previous cases, ICSID tribunals normally lack of competence to issue cost order against TPF funder because the funder is not a party to the arbitration and does not involve in the underlying dispute between the two parties in the arbitration (Draft Report, 2015). But as analyzed above, the existence of TPF under investor-state arbitration, through providing funding to impecunious investors, will undoubtedly lead to an increase in the number of claims against state. With this fact in mind, states and scholars strongly argue that funders should be accountable for the respondent state’s costs incurred during the arbitral proceedings in the event that the claim brought by the funded investors are unsuccessful. In addition, if the funder did actually heavily influence or delay the proceeding and cases, is it necessary for the tribunal to “focus on the consequences of the

interference of third party funders and their possible negative influence on the proceedings” (Brabandere & Lepeltak, 2012, p. 15) and take into account the funder’s role while deciding the costs allocation.

Risk on Security for Costs

Previous section has examined the current practice concerning allocation of costs under investor-state arbitration. Since funded investor might to be ordered to pay state’s reasonable costs incurred during arbitral proceedings, thus tribunal is bound to consider whether the costs paid by the state can be fully recovered by the investor if the claim is unsuccessful, especially under the circumstance where the funded investor is impecunious. Thus there is a necessity to explore whether state can demand tribunal to take TPF into account when accessing application on security for costs. In present, even modern arbitral laws or rules have started the practice to provide express provision in terms of tribunal’s power to order security payment, but the circumstances or conditions upon which tribunal shall make the order are normally not provided, which gives tribunal a broad discretion on this issue. While no uniform practice has developed, but one common understanding has been widely accepted among different tribunals, which requires respondent state seeking security to provide sufficient evidence to assume that the current financial circumstances of the investor are unable to pay the respondent’s costs at the end of the proceedings.

With respect to security for costs, ICSID tribunals have constantly required evidence of exceptional circumstances before security can be order. In *EuroGas Inc v. Slovak Republic*, the tribunal has reiterated the principle that “security for costs may only be granted in exceptional circumstances, ‘for example where abuse or serious misconduct has been evidenced’ ” (*EuroGas Inc. & Belmont Resources Inc. v. Slovak Republic*, para. 121). Also the tribunal found that: “financial difficulties and third party-funding – which has become a common practice – do not necessarily constitute per se exceptional circumstances justifying that the Respondent be granted an order of security for costs” (*EuroGas Inc. & Belmont Resources Inc. v. Slovak Republic*, para. 121). Pursuant to the reasoning made by the EuroGas tribunal, merely financial difficulties of investor and TPF involvement together cannot constitute exceptional circumstances justifying that tribunal should grant security for costs order in favor of respondent state. In *RSM Production Corporation v. Saint Lucia*, the tribunal held that the funded investor should be ordered to post security for costs under the following exceptional circumstance:

“the proven history where Claimant did not comply with cost orders and awards due to its inability or unwillingness, the fact that it admittedly does not have sufficient financial resources itself and the (also admitted) fact that it is funded by an unknown third party which, as the Tribunal sees reasons to believe, might not warrant compliance with a possible costs award rendered in favor of Respondent” (*RSM Production Corporation v. Saint Lucia*, para. 86).

In RSM, even the tribunal has ordered the security for costs against the funded investor for the first time in ICSID history, but pursuant to reasoning of the tribunal, the order is made mainly based on the investor’s proven history of not honoring costs awards, also the TPF could not alleviate the concern that the funded investor will again default on payment.

Pursuant to the cases studied above, nothing in the decision supports the idea of ordering security payment whenever third funding is present. It is true that more and more large and solvent investors are relying on TPF as a way to offset risk if their claims are not successful, also more and more impecunious investors are voluntarily disclosing that a solvent funder will be liable for a potential costs order if their claims fail, then granting security for costs order under these circumstances is unnecessary. But if the investor is impecunious and unable to pay the state’s reasonable costs, also the TPF agreement is not disclosed to the respondent state because the funder is not obliged to pay the potential adverse costs award under the TPF, so failing to take the arrangement between the funder and the funded investor into account by the tribunal, which could affect the state to fully recover its costs incurred for the arbitration at the end of the proceedings. Even the ICSID tribunal, in *Muhammet v. Turkmenistan*, has confirmed that TPF agreement must be unveiled to respondent state due to the

consideration of security for costs (Muhammet v. Turkmenistan, para. 13), but such practice has not been universal accepted. Pursuant to the scenario, respondent states might face the risk on recovering their costs if security for costs order shall not be granted.

CONCLUSION

TPF in investor-state arbitration is a fast growing industry and will undoubtedly play a large role in the future. It is important to support the development of TPF and take advantage of its benefits, but besides the advantages severed by TPF for investors and funders, TPF's interaction with investment arbitration might bring several potential risks. Therefore, it is urgent to research for a series of substantive and binding provisions in the future, such as mandatory disclosure of the TPF agreement, tribunal power to take TPF agreement into account before granting security for costs order in favor of state, as well as rendering funder to pay adverse costs order where tribunal considers appropriate, to mitigate the risks faced by respondent states to investor-state arbitration.

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A NEXUS BETWEEN ECONOMIC VARIABLES AND USD-INR EXCHANGE RATE

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ABSTRACT

The main aim of this study is to find out the relationship between exchange rate and external economic variables. This study deals with the external factors that influencing the exchange rate of USD-INR. The data of these variables are collected from the official websites of NSE, RBI, PPAC and DIPP. The data have collected from the period January 2004 to December 2015. Eviews and SPSS are the statistical packages used in this study. Descriptive statistics and Jarque-Bera test used to find the mean, median and standard deviation. To meet the forecasting objective ARCH-EGARCH model has been used. Before developing this model normality test, auto correlation test and Heteroskedasticity test are used to test the residuals.

Keywords: Exchange Rate, USD, Rupee, Economic Variables

INTRODUCTION

The price of a nation's currency in terms of another currency is called as exchange rate. An exchange rate thus has two components, the domestic currency and a foreign currency, and can be quoted either directly or indirectly. In a direct quotation, the price of a unit of foreign currency is expressed in terms of the domestic currency. In an indirect quotation, the price of a unit of domestic currency is expressed in terms of the foreign currency. An exchange rate that does not have the domestic currency as one of the two currency components is known as a cross currency, or cross rate.

This study deals with the external variables that influencing the exchange rate of the US dollar against the Indian Rupee. The variables are Crude oil price, FDI inflow in India, Foreign exchange reserve account of India and External Commercial Borrowings. The exchange rate is number of units of a particular currency required to buy a single unit of another currency. It will be determined based on the strength of the currency in the global market. The strength of the currency depends on the economic stability and growth of the country. RBI is being the sole right holder of foreign exchange management in India. RBI regularly interferes in the foreign exchange market in many ways like policy amendments with trade limits, and trade in currency through central purchase or selling. RBI trades in the ForEx market to keep the exchange rate volatility at minimum fluctuations.

If the exchange rate of USD keeps increasing RBI will sell huge amount of USD from the reserve account. It will result in increase in supply of the currency and reduce the exchange rate of the USD against Indian rupee. Similarly exchange rate keeps decreasing; RBI will buy more USD for reserve account and create the demand for the USD. It will result in hike of exchange rate. ECB is used to raise funds for the companies it result in inflow of the foreign fund in to the country when raising funds and it goes out of the country as interest payment during the repayment of the loan. So it has impact on the exchange rate of the currency.

LITERATURE REVIEWS

Nair et al. (2015) jointly made their study on the inverse relationship between the values of U.S. dollar and that of gold was one of the most talked about relationships in currency markets. Hidhayathulla and Rafee (2014) examined the effects of oil price on exchange rate of Indian rupee against US dollar using time series data from 1972-73 to 2012-13.

Mondal et al. (2014) made a study to investigate the dynamic relationships between oil price shocks and Indian stock market. The study enhanced the understandings of the interaction between oil price volatilities and emerging stock market performances. The relationship between oil and gold prices was studied in the paper (Jana, 2011; Le & Chang, 2011).

Agrawal (2010) analyzes the relationship between Nifty returns and Indian rupee-US Dollar Exchange Rates. Several statistical tests have been applied in order to study the behavior and dynamics of both the series. Mirchandani (2013) carried out a research in order to investigate various macroeconomic variables leading to acute variations in the exchange rate of a currency. Varvares (2012) done a research on Macroeconomic effects of Oil prices in considering the macroeconomic effects of oil price increases, it is important to be mindful of whether changes come from the supply or demand side and whether they are accompanied by impacts on financial markets.

Volatility and asymmetric transformation effect in Indian stock and foreign exchange market, two exchange rates [US Dollar and Euro] were tested with stock index (SENSEX). They examined the volatility spillover between the variables generalized autoregressive conditional using heteroskedasticity (GARCH) and exponential GARCH (EGARCH) models. (Panda & Deo, 2014). The forecast of stock market volatility of six emerging countries like Brazil, Russia, Mexico India, China and South Africa by using daily observations of indices and they used ARCH, GARCH, GARCH-M, EGARCH AND TGARCH models (Tripathy & Garg, 2013)

Cuaresma and Hlouskova (2004) compared the varies forecasting models to predict the exchange rates for five Central and Eastern European currencies against the Euro and the US dollar. Lubecke et al. (1995) examined the performance of ten mathematical composite model in terms of accuracy and correctness to forecast the exchangerates.

METHODOLOGY FRAMEWORK

Though there were quite a few studies undertaken in this area, most of the studies considered about factors like interest rate, inflation rate and gold price. Very few studies have concentrated on the variables like External commercial borrowings and ForEx reserve account. This study helps to find the impact of these four variables (ECB, Crude oil price, FDI inflow and FX reserves) on exchange rate and develops new model to forecast the exchange rate using this new combination of the variables.

Research Problem

Exchange rate of the home currency against host country's currency shows the strength of the currency. It also indicates the economic stability of the home country. This study focuses on the exchange rate of the currency pair United States Dollar (USD) and Indian Rupee (INR). The exchange rate of the USD/INR is influenced by various economic factors. From the various economic factors, Crude oil price, Foreign Direct Investment inflow, External Commercial Borrowings and ForEx reserve account of India are the four factors considered for this study which influences the exchange rate of the US Dollar against Indian Rupee.

Objectives of the Study

1. To study the volatility movement of USD – INR exchange rate.
2. To assess the impact of external variables (ECB, FDI inflow, Crude oil price and FX reserve) on exchange rate of US dollar.
3. To understand the relationship between external variables (ECB, FDI inflow, Crude oil price and FX reserve) and USD-INR exchange rate.
4. To forecast the future exchange rate of US Dollar against Indian rupee by using suitable model.

Scope of the Study

The scope of the study is to understand the volatility of exchange rate and to forecast the future exchange rate. The volatility of the exchange rate heavily affects the import and export business in India. So it is important to understand the volatility and forecast the exchange rate to do the international business. This study helps the companies to anticipate the future currency rate, helps them to manage their investments, estimate their future cash flows.

Research Methodology

This study is done based on the quantitative data. Research design used in this study is Analytical research design. In analytical research study, the researcher has to use facts or information already available and analyze these to make a critical evaluation of the material. Here the secondary data available in the websites used for analysis to find the result. The time period of the sample is from January 2004 to December 2015 and the frequency of data is monthly. The currency exchange of USD/INR pair listed in NSE, crude oil price published in PPAC website, FDI inflow, External commercial borrowings and ForEx reserve account published in RBI website was considered as a sample. The study is purely based on secondary data. The secondary data are those which have been collected and stored already and been passed through the statistical process. The main sources of data are collected from officially published in websites of RBI, NSE, PPAC and DIPP.

Limitations of the Study

- This study is based on secondary data collected from official websites of RBI, DIPP, PPAC and NSE. The accuracy of data depends on the accuracy of the data updated in these sites.
- The time period is limited to past 12 years (2004 to 2015), since the ECB data is available only from 2004.
- USD/INR is the only currency pair considered for the study, since USD- INR pair contributes more in India's international trade.
- This study considers only four variables (Crude oil price, FDI inflow, External commercial borrowings and ForEx reserve account), that they have influence on exchange rate.

ANALYSIS AND DISCUSSION

Descriptive Statistics Analysis

Descriptive statistics in Eviews used here to know the basic things about data and it helps to find the distribution of the data. The descriptive statistics of the variables has been displayed in the Table 1.

Table 1
Descriptive Statistics of Variables

Particulars	USD-INR	CO (in \$)	ECB (in '000 \$)	FDI (in million \$)	FXR (in million \$)
Mean	49.77935	77.47499	2088607.00	1801.361	253091.7
Median	46.39099	74.01000	1953362.00	1634.500	283170.5
Maximum	66.59551	132.4700	5631129.00	5670.000	356001.0
Minimum	39.37478	29.61000	214583.80	122.0000	107926.0
Std. Dev.	7.590270	26.91973	1166247.00	1246.735	72829.38
Skewness	0.771457	0.049853	0.613738	0.996698	-0.706073
Kurtosis	2.278905	1.746931	2.825536	3.823640	2.095776
Jarque-Bera	17.40337	9.480740	9.222808	27.91205	16.87068
Probability	0.000166	0.008735	0.009938	0.000001	0.000217

Source. Calculations have been computed based on secondary data.

During the study period (2004-2015) the maximum exchange rate is Rs. 66.59551 and the minimum rate is Rs. 39.37478. The standard deviation of the exchange rate for the past 12 years stood at Rs. 7.59027. It shows the deviation or the volatility of the exchange rate is quite high over the period. The skewness values of exchange rate, ECB and FDI (0.771457, 0.613738 & 0.996698) have high positive values which indicate it has long tail to the right side of the curve. The mean of this data are on the right side to the peak.

Jarque-Bera Test

Null Hypothesis: The data is normally distributed.

The probability value of all the variables for Jarque-Bera test is less than 0.05, leads to rejection of null hypothesis. So we can conclude the variables are not normally distributed. This shows randomness and inefficiency of the exchange rate, crude oil price, ForEx reserve account, FDI inflow and External commercial borrowings.

Correlations Analysis

Correlation test is used here to find the relationship among the external economic variables and USD INR exchange rate. Pearson Correlation test has been used to test the relationship between the variables. The correlation between exchange rate and external economic variables are shown in the Table 2.

Null Hypothesis: There is no significant relationship between variables.

Table 2
Correlations between Exchange Rate and External Economic Variables

Correlations between Exchange Rate and External Economic Variables					
		CO	FDI	FXR	ECB
USD-INR	Pearson Correlation	0.156	.337 **	.556 **	.199 *
	Sig. (2-tailed)	0.062	0	0	0.017
**. Correlation is significant at the 0.01 level (2-tailed).					
*. Correlation is significant at the 0.05 level (2-tailed).					

Source. Calculations have been computed based on secondary data.

USD/INR vs Crude oil price: The significant value (0.062) is greater than 0.05, here we are accepting the null hypothesis.

USD/INR vs FDI inflow: The correlation value 0.337 indicating a lower degree of positive correlation between exchange rate and FDI inflow. The significant value (0) is less than 0.05, so we are rejecting the null hypothesis.

USD/INR vs ForEx reserve account: The correlation value 0.556 indicating a higher degree of positive correlation between exchange rate and ForEx Reserve account. The significant value (0) is less than 0.05, so we are rejecting the null hypothesis.

USD/INR vs External Commercial Borrowings: The correlation value 0.199 indicating a lower degree of positive correlation between exchange rate and ECB. The significant value (0.017) is less than 0.05, so here we are rejecting the null hypothesis.

Unit Root Test

In Statistics, Unit root test is used to test whether the time series variable is stationary or non-stationary. It is the initial step to enter into the econometrics analysis. The data series is said to be 'stationary' if its mean and variance are constant over time and the value of covariance between the two time periods depends only on the distance or lag between the two time periods and not the actual time at which the covariance is computed. In unit root test, here Augmented Dickey-Fuller Test has been used. Augmented Dickey-Fuller (ADF) test has been carried out which is the modified version of Dickey-Fuller (DF) test.

USD/INR exchange rate

Exchange rate of the USD INR is the independent variable of this study. Past 12 years monthly data has been collected for this study.

Table 3
Unit Root Test – USD/INR Exchange Rate

Null Hypothesis: D(USD-INR) has a unit root				
Exogenous: Constant				
Lag Length: 0 (Automatic - based on SIC, maxlag=13)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-8.832840	0.0000
Test critical values:	1% level		-3.476805	
	5% level		-2.881830	
	10% level		-2.577668	
*MacKinnon (1996) one-sided p-values.				

Source. Calculations have been computed based on secondary data.

Here the t-statistic value (-8.832840) is less than the critical values (- 3.476805, -2.881830, -2.577668) and the probability is less than 5% significant level, so the time series data of USD/INR exchange rate is stationary. So we can econometric analysis for this variable.

Crude oil price

Table 4 shows the result of the unit root test of the crude oil price. The number of observations is 144. Here the t-statistic value (-7.140321) is less than the critical values (- 3.476805, -2.881830, -2.577668) and the probability is less than 5% significant level, so the time series data of crude oil price is stationary. So we can econometric analysis for this variable.

Table 4
Unit Root Test – Crude Oil Price

Null Hypothesis: D(CO) has a unit root				
Exogenous: Constant				
Lag Length: 0 (Automatic - based on SIC, maxlag=13)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-7.140321	0.0000
Test critical values:	1% level		-3.476805	
	5% level		-2.881830	
	10% level		-2.577668	
*MacKinnon (1996) one-sided p-values.				

Source. Calculations have been computed based on secondary data.

External Commercial Borrowings

Table 5 shows the result of the unit root test of the External commercial borrowings. The number of observations is 144. Here the t-statistic value (- 11.05535) is less than the critical values (- 3.477835, -2.882279, -2.577908) and the probability is less than 5% significant level, so the time series data of external commercial borrowing is stationary. So we can econometric analysis for this variable.

Table 5
Unit Root Test – ECB

Null Hypothesis: D(ECB) has a unit root			
Lag Length: 3 (Automatic - based on SIC, maxlag=13)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-11.05535	0.0000
Test critical values:	1% level	-3.477835	
	5% level	-2.882279	
	10% level	-2.577908	
*MacKinnon (1996) one-sided p-values.			

Source. Calculations have been computed based on secondary data.

FDI Inflow

Table 6 shows the result of the unit root test of the FDI inflow in India. The number of observations is 144.

Table 6
Unit Root Test – FDI Inflow

Null Hypothesis: D(FDI) has a unit root			
Exogenous: Constant			
Lag Length: 2 (Automatic - based on SIC, maxlag=13)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-10.64753	0.0000
Test critical values:	1% level	-3.477487	
	5% level	-2.882127	
	10% level	-2.577827	
*MacKinnon (1996) one-sided p-values.			

Source. Calculations have been computed based on secondary data.

Here the t-statistic value (-10.64753) is less than the critical values (- 3.477487, -2.882127, -2.577827) and the probability is less than 5% significant level, so the time series data of Foreign Direct Investment inflow in India is stationary. So we can econometric analysis for this variable.

ForEx Reserves

Table 7 shows the result of the unit root test of the ForEx reserves account in India. The number of observations is 144.

Null Hypothesis: (FXR) has a unit root.

Table 7: Unit root test – ForEx reserves

Exogenous: Constant			
Lag Length: 0 (Automatic - based on SIC, maxlag=13)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.229301	0.0000
Test critical values:	1% level	-3.476805	
	5% level	-2.881830	
	10% level	-2.577668	

Source. Calculations have been computed based on secondary data.

Here the t-statistic value (-10.64753) is less than the critical values (- 3.477487, -2.882127, - 2.577827) and the probability is less than 5% significant level, so the time series data of Foreign Exchange Reserve account of India is stationary. So we can econometric analysis for this variable. The overall result is all the variables are stationary at first difference level. We can use econometric analysis for these variables.

Lag Length Criteria Test

Before get into the Johansen Co-integration test and Granger causality test, Lag length criteria test is employed here to find the appropriate lag value. It will help give the accurate result and avoids the loss of data. The result of the test is shown in the Table 8.

Table 8

Lag Length Criteria Test

VAR Lag Order Selection Criteria						
Endogenous variables: USDINR CO ECB FDI FXR						
Exogenous variables: C						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	-5955.197	NA	8.01e+31	87.64996	87.75704	87.69347
1	-5176.353	1488.966	1.23e+27	76.56402	77.20652*	76.82511*
2	-5145.021	57.59558	1.12e+27*	76.47090*	77.64881	76.94958
3	-5129.089	28.11670	1.28e+27	76.60424	78.31757	77.30050
4	-5112.384	28.24982	1.46e+27	76.72624	78.97498	77.64007
5	-5096.103	26.33679	1.68e+27	76.85446	79.63862	77.98587
6	-5068.068	43.29041	1.63e+27	76.80982	80.12939	78.15881
7	-5054.564	19.85765	1.98e+27	76.97889	80.83387	78.54546
8	-5023.098	43.96028*	1.86e+27	76.88380	81.27420	78.66794
* indicates lag order selected by the criterion						
LR: sequential modified LR test statistic (each test at 5% level)						
FPE: Final prediction error						
AIC: Akaike information criterion						
SC: Schwarz information criterion						
HQ: Hannan-Quinn information criterion						

Source. Calculations have been computed based on secondary data.

Here lag 1 and lag 2 have equally indicated by the Lag length criteria test. Even though SC is the superior criteria, so lag one is selected for the Johansen Co-integration test.

Johansen Co-Integration Test

The Johansen Co-integration test is used here to find the long term relationship between economic variables and the exchange rate of the USD/INR. It also examines the presence of any co-integrating vectors among the selected economic variables and the USD/INR exchange rate.

Null Hypothesis: There is no co-integration relationship between selected economic variables and the USD INR exchange rate.

Table 9
Johansen Co-Integration Test

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.270688	98.17940	69.81889	0.0001
At most 1 *	0.249180	53.67226	47.85613	0.0129
At most 2	0.063003	13.26323	29.79707	0.8792
At most 3	0.026240	4.087663	15.49471	0.8963
At most 4	0.002397	0.338387	3.841466	0.5608
Trace test indicates 2 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.270688	44.50714	33.87687	0.0019
At most 1 *	0.249180	40.40903	27.58434	0.0007
At most 2	0.063003	9.175562	21.13162	0.8180
At most 3	0.026240	3.749276	14.26460	0.8848
At most 4	0.002397	0.338387	3.841466	0.5608
Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

Source. Calculations have been computed based on secondary data.

Table 9 shows the result of the Johansen co-integration test. In Trace test, at “None” and “At most 1” the probability values (0.0001 & 0.0129) is less than 0.05, hence we reject the null hypothesis, so the there is a co-integration exists among the variables in long term. But other than “None” and “At most 1” all criteria have probability value greater than 0.05 which indicates there is no long term relationship exists among the external economic variables and exchange rate of USD/INR pair. The Maximum Eigenvalue test also giving the same result. So there is long term association exists between independent variables and exchange rate only at “None” and “At most 1”.

Granger Causality Test

Correlation does not necessarily imply causation in any meaningful sense of that word. The econometric graveyard is full of magnificent correlations, which are simply spurious or meaningless. The Granger (1969) approach to the question of whether x causes y is to see how much of the current y can be explained by past values of y and then to see whether adding lagged values of x can improve the explanation. Y is said to be Granger-caused by x if x helps in the prediction of y, or equivalently if the coefficients on the lagged x's are statistically significant. Note that two-way causation is frequently the case; x Granger causes y and y Granger causes x. It is important to note that the statement x Granger causes y does not imply that y is the effect or the result of x. Granger causality measures precedence and information content but does not by itself indicate causality in the more common use of the term. Lag 1 is used here in the Granger causality test. Table 10 shows the result of the Granger causality test.

Table 10
Granger Causality Test

Pairwise Granger Causality Tests			
Sample: 2004M01 2015M12			
Lags: 1			
Null Hypothesis:	F-Statistic	Prob.	Decision
CO does not Granger Cause USDINR	6.48819	0.0119	Reject
USDINR does not Granger Cause CO	5.82677	0.0171	Reject
ECB does not Granger Cause USDINR	0.08792	0.7673	Accept
USDINR does not Granger Cause ECB	4.19908	0.0423	Reject
FDI does not Granger Cause USDINR	0.43396	0.5111	Accept
USDINR does not Granger Cause FDI	6.57447	0.0114	Reject
FXR does not Granger Cause USDINR	4.93369	0.0279	Reject
USDINR does not Granger Cause FXR	0.0149	0.903	Accept

Source. Calculations have been computed based on secondary data.

Forecasting Analysis

The ARCH/EGARCH model is employed here to forecast the exchange rate of the USD/INR. Before get into the ARIMA or ARCH model we have to test the normality, auto correlation and Heteroskedasticity of the residuals.

Normality Test

Null hypothesis: The residuals are normally distributed

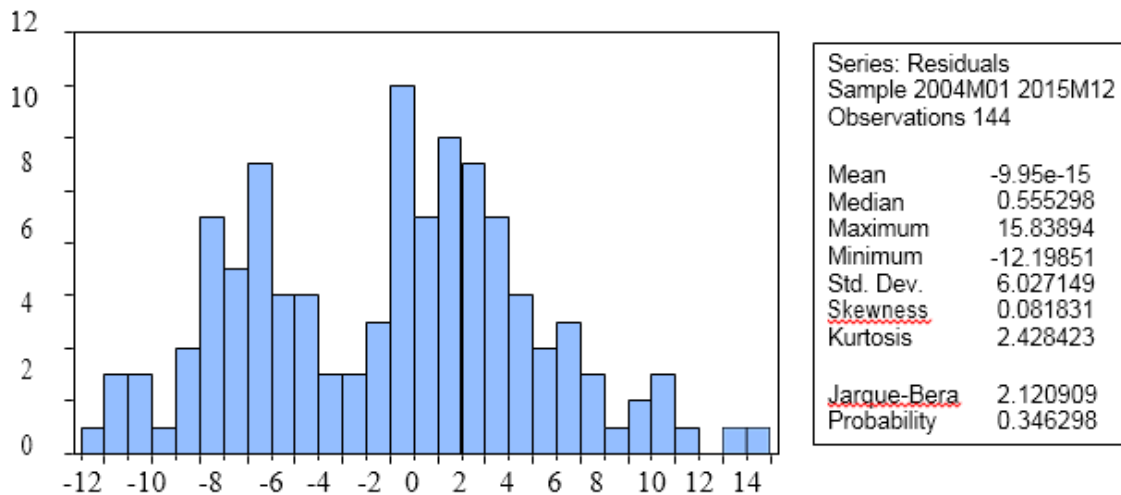


Figure 1. Normality Test

The probability value is greater than 0.05, so accept null hypothesis. The residuals (error terms) are normally distributed.

Auto Correlation test

The table 11 shows the significant value is less than 0.05, so reject the null hypothesis. Hence we can conclude that there is a serial correlation among the variables.

Null hypothesis: There is no serial correlation among variables.

Table 11
Auto Correlation test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	3071.260	Prob. F(1,138)	0.0000
Obs*R-squared	137.8079	Prob. Chi-Square(1)	0.0000

Source. Calculations have been computed based on secondary data.

Heteroskedasticity Test

Null hypothesis: The residuals are not Heteroskedasticity in nature.

Table 12
Heteroskedasticity Test

Heteroskedasticity Test: ARCH			
F-statistic	548.5079	Prob. F(1,141)	0.0000
Obs*R-squared	113.7574	Prob. Chi-Square(1)	0.0000

Source. Calculations have been computed based on secondary data.

The probability of F-statistic and the Chi-square test is less than 0.05, so reject the null hypothesis. The residuals are heteroskedasticity in nature. The results of Heteroskedasticity test, normality test and auto correlation test guide to use ARCH model to forecast the USD/INR exchange rate.

Autoregressive Conditional Heteroskedasticity (ARCH) models are specifically designed to model and forecast conditional variances. If an autoregressive moving average model (ARMA model) is assumed for the error variance, the model is a generalized autoregressive conditional heteroskedasticity (GARCH, Bollerslev (1986)) model. The exponential generalized autoregressive conditional heteroskedastic (EGARCH) model by Nelson (1991) is another form of the GARCH model. While choosing the model in ARCH, the stable model the Akaike info criterion should be the minimum value. Here various models have been tested with the Akaike value and finally EGARCH (1, 1) model selected to forecast the exchange rate.

Model: EGARCH (1, 1)

Table 13
EGARCH Model

Dependent Variable: USDINR				
Method: ML - ARCH (Marquardt) - Normal distribution				
Presample variance: backcast (parameter = 0.7)				
LOG(GARCH) = C(6) + C(7)*ABS(RESID(-1)/@SQRT(GARCH(-1))) + C(8) *LOG(GARCH(-1)) + C(9)*CO + C(10)*ECB + C(11)*FDI +				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	36.18538	2.134315	16.95409	0.0000
CO	-0.095106	0.024128	-3.941743	0.0001
ECB	8.74E-08	4.15E-07	0.210470	0.8333
FDI	-0.000581	0.000513	-1.133237	0.2571
FXR	8.72E-05	1.08E-05	8.101447	0.0000
Variance Equation				
C(6)	3.312480	1.529308	2.165999	0.0303
C(7)	0.695676	0.598427	1.162506	0.2450
C(8)	-0.568889	0.431275	-1.319088	0.1871
C(9)	0.012866	0.025725	0.500152	0.6170
C(10)	-1.28E-08	5.19E-08	-0.246214	0.8055
C(11)	3.03E-05	0.000113	0.266672	0.7897
C(12)	1.06E-06	1.12E-05	0.094235	0.9249
R-squared	0.366589	Mean dependent var		49.77935
Adjusted R-squared	0.348361	S.D. dependent var		7.590270
S.E. of regression	6.127182	Akaike info criterion		6.277403
Sum squared resid	5218.388	Schwarz criterion		6.524888
Log likelihood	-439.9730	Hannan-Quinn criter.		6.377967
Durbin-Watson stat	0.048798			

Source. Calculations have been computed based on secondary data.

$$\text{LOG(GARCH)} = C(6) + C(7)*\text{ABS}(\text{RESID}(-1)/\text{@SQRT}(\text{GARCH}(-1))) + C(8)*\text{LOG}(\text{GARCH}(-1)) + C(9)*\text{CO} + C(10)*\text{ECB} + C(11)*\text{FDI} + C(12)*\text{FXR}$$

The exchange rate forecasting model has been developed and displayed above. The detailed description of the equation is shown in the below table.

Table 14
Description of the model

Variable	Description
LOG(GARCH)	Current month exchange rate
C(6)	Constant value
ABS(RESID(-1))	Absolute value of previous month error term (residual)
SQRT(GARCH(-1))	Square root of previous month GARCH value (here GARCH represents the effects of volatility of previous month exchange rate)
C(7)	Coefficient of the above two variables
LOG(GARCH(-1))	Previous month exchange rate
C(8)	Coefficient of previous month exchange rate
CO	Current month crude oil price
ECB	Current month external commercial borrowings
FDI	Current month FDI inflow
FXR	Current month ForEx reserve account balance

FINDINGS, SUGGESTIONS, CONCLUSION AND SCOPE FOR FUTURE RESEARCH

Findings of the Study

- The significant value is less than 0.05, so the collected data are not normally distributed and mean, median and standard deviation has been interpreted.
- The significant value in Pearson's correlation test for crude oil price and exchange rate is greater than 0.05, so accepting null hypothesis. It reveals there is no significant correlation between exchange rate and crude oil price. But all other variables have significant value less than 0.05, which lead to rejection of null hypothesis.
- The t-statistic value is less than the critical values in unit root test. It reveals that the data are stationary at first difference level. It allows further to use the econometric analysis.
- The lag length criteria test used to find the appropriate lag value for the Johansen co-integration test and Granger causality test. The result of the test indicates appropriate lag value as 1.
- In Johansen co-integration test the probability value is less than 0.05 in "None" and "At most 1". It says there is a long term relationship exists between exchange rate and external economic variables (External commercial borrowings, FDI inflow, Crude oil price and ForEx reserve account). It indicates the changes in these economic variables will impact the exchange rate in long run.
- The exchange rate has short term causal relationship with crude oil price and ForEx reserves. Because the significant value is less than 0.05 which lead to rejection of null hypothesis.
- To use the ARCH model normality test, auto correlation test and Heteroskedasticity test has been employed for residuals. In all three tests null hypotheses get satisfied with significant values. The results reveals that the residuals are normally distributed, have serial correlation and heteroskedasticity in nature.
- The forecasting model has been developed using EGARCH (1, 1) model to forecast the future USD INR exchange rate.

Suggestions

- The exchange rate of the USD INR is key factor for the India's international business. So every people who trade globally must understand the volatility movement of the exchange rate.
- Most of the people considering only the basic economic variables such as interest rate, GDP and etc, have influence on exchange rate volatility. But this study suggest that

external economic variables like crude oil price, External commercial borrowings, FDI inflow and ForEx reserves also influencing the exchange rate.

- Crude oil price and forex reserve account have its immediate effects on exchange rate, so the business people must closely watch the RBI interventions and international crude oil price while taking decisions.
- All the independent variables (FDI inflow, crude oil price, ForEx reserve account and ECB) have impact in exchange rate in long run. So while we taking long term decision in business, we have to consider these economic variables.
- The suitable forecasting model needs to be used to forecast the future exchange rate while taking business and investment decisions.

Conclusion and Scope for Future Research

This study empirically investigates the causal relationship between exchange rate of USD/INR and external economic variables such as crude oil price, FDI inflow, ForEx reserve account and external commercial borrowings.

To have better understandings on the issue, future research is suggested. Further research efforts could either eliminate some of the limitations or expand the scope of investigation in this study. The possible extension of this study is to consider the impact of gold price and trade balance of the country along with other important macroeconomic determinants. Future study could empirically test the relationship by considering the potential structural breaks. The sample sizes need to be increased to get accurate result. The number of tools used for analysis can be increased.

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GOVERNANCE, COMPETITIVENESS AND ECONOMIC PERFORMANCE IN ATTRACTING FOREIGN DIRECT INVESTMENT INFLOW IN SAARC AND ASEAN COUNTRIES

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BACKGROUND

Foreign direct investment has become one of the most important determinants of economic growth of developing countries. The area of this study is very important for SAARC and ASEAN as FDI shows an important factor for development as it transfers technology, generate employment, improve trade balance, improve technical knowhow of the labor, use domestic resources, filling savings gap, and improve managerial skills and many more that ultimately can bring economic growth and development of SAARC and ASEAN countries. The global inflows of FDI declined by 16 % to \$ 1.23 trillion in 2014 mostly because of the fragility of the global economy, policy uncertainty for investors and elevated geopolitical risks. Inward FDI flows to developing economies reached at the highest level at \$681 billion with a 2 per cent rise. Developing Asia are leading in taking global inflows and receives \$465 billion in 2014. China has become the world's largest recipient of FDI but in manufacturing sector the share declined and increases in the services sector as they open their retail market. The low level of inflows to developed countries and declined by 28 per cent to \$499 billion in 2014. Developing Asia are now investing abroad and their investment reached a record level. Global FDI inflows are projected to grow by 11 per cent to \$1.4 trillion in 2015, \$1.5 trillion in 2016 and to \$1.7 trillion in 2017. The APEC region, being one of the most dynamic areas of the present world economy, obviously attracted bulk world share of FDI inflow of 53% totaling \$552 billion (UNCTAD, 2015). The share of FDI of ASEAN countries is 11% of the total world amounting \$ 133 billion. Vietnam, Malaysia, Thailand, Indonesia, Philippines, Singapore are the main recipients of FDI in ASEAN region. Among the ASEAN Indonesia has shown a very good performance in attracting FDI in 2014 and receives US\$ 22580 million. Vietnam is also performing very well in attracting FDI. The share of SAARC region is about 5% totaling \$39.08 billion of the total FDI. India is the top one country among the SAARC region that has received a sizable amount of FDI in 2014 amounting US\$ 34.417 billion. Recently India's performance in attracting FDI is mentionable among the SAARC countries and the position of Bangladesh is almost even for every year but for the case of Pakistan the trend tends to decrease over the period of 2009 to 2014 (UNCTAD ,2015).

Governance, competitiveness and economic performance in attracting FDI inflow in SAARC and ASEAN countries will be the main focusing point of this paper. The underlying objectives of the study are to examine empirically using cross sectional data of 70 FDI receiving countries and implication of global competitiveness and human development indicators as factor affecting foreign direct investment inflow and to examine the governance and economic performance affecting the growth of foreign direct investment inflow in and to suggests policy measures to improve foreign direct investment inflow in SAARC and ASEAN countries. The research questions of the study are how has global competitiveness and human development factors affected foreign direct investment inflow in SAARC and ASEAN countries and to what extent has governance and economic performances affecting foreign direct investment inflow in SAARC and ASEAN countries? The study will concentrate on assessment of the global competitiveness and human development indicators with governance and economic performance as determinants of foreign direct investment (FDI) inflow in SAARC and ASEAN countries especially in the context of governance and institutional effectiveness.

LITERATURE REVIEW AND THEORETICAL ASPECTS AND CONCEPTUAL FRAMEWORK

Ohno (2005) defined FDI as an international financial flow with the intention of controlling or participating in the management of an enterprise in a foreign country. Urata (1994) found that neither product differentiation nor technological superiority were the important determinants of Japanese FDI

in East Asian economies but that trade in terms of export dependence and import penetration were positively associated with FDI. Cassidy (1994) noted that with regard to locational determinants of FDI in China based on the literature, one can say that market size, cost of capital, political stability, levels of illiteracy, exports from foreign invested enterprises in China, township and village enterprise growth rates, wages, exchange rates, economic integration, and cultural differences have been found to be determinants of FDI in China. Dunning (1994) mentioned that there are four main types of FDI as follows 1) natural resource-seeking, 2) market seeking, 3) Efficiency seeking and 4) Strategic (created) asset seeking. Demirhan and Masca (2008) in their paper found that political risk has not been an important factor in attracting FDI in the mentioned period. When the host countries present high returns, firms may ignore political risk. As long as the foreign company is confident of being able to operate profitably without excessive risk to its capital and personnel, it may continue to invest.

Institutions make up the constraints and incentive systems of a society that structure human interactions, and thus they provide rules and enforcement mechanisms that constrain actors and limit their best-choice options to generally predictable outcomes (North, 1990). Blonigen (2005) mentioned that the quality of institutions is likely an important determinant of FDI activity, particularly for less-developed countries for a variety of reasons. First, poor legal protection of assets increases the chance of expropriation of a firm's assets making investment less likely. Poor quality of institutions necessary for well-functioning markets (and/or corruption) increases the cost of doing business and, thus, should also diminish FDI activity. And finally, to the extent that poor institutions lead to poor infrastructure (i.e., public goods), expected profitability falls, as does FDI into a market. Singh, H., & Jun, K. W. (1995) found political stability, business conditions, and manufacturing exports are more important for host countries with higher FDI than those with lower FDI. Chakrabarti (2001) was found that market size holds the largest and most significant place in such studies. Asiedu (2005) and Morisset (2000) both found significance in the role of the country's market size and natural resource endowment. Harms and Ursprung (2002) examine whether multinational corporations seek civil and politically repressed countries in which to invest, thus boosting FDI to such countries and found a negative and significant relationship between the dependent variable and political repression.

Böckem and Tuschke (2010) studied on the economic and the institutional perspectives highlight important aspects of a firm's FDI decision. Under the economic perspective, firms that optimize independently are attracted by the economic rents a country's market offers, and several firms may follow the same allures. From the institutional perspective, the same mimetic FDI decisions might be caused by the firm's striving for legitimacy within its organizational field. The economically oriented FDI research addresses the economic rationale of foreign investments, and the institutional perspective helps to explain the extent to which these FDI decisions are influenced by the firm's striving for legitimacy and its quest for mitigating the uncertainty associated with investments in foreign markets. Buracom (2014) in his recent study found that FDI is more likely to flow to countries with appropriate institutional environment. Effective government and better rule of law and property rights protection can reduce investment risk and cost of doing business. These institutional factors therefore, tend to promote the inflows of FDI.

To sum up, it is realistic to mention that beyond the domestic economic performances some scholar studied on non-economic performances especially the effect of institutions and governances on the inflows of FDI and found them as determinants of growth of FDI. This study is an attempt to use the concept of economic growth theory to conceptualization and building framework for the determinants of FDI. The theory behind of these empirical study is the classical and new classical growth theory, endogenous growth theory, Sen's Development as Freedom theory and more importantly the new institutionalism theory, growth. The conceptual framework has been developed on the basis literature review and theory.

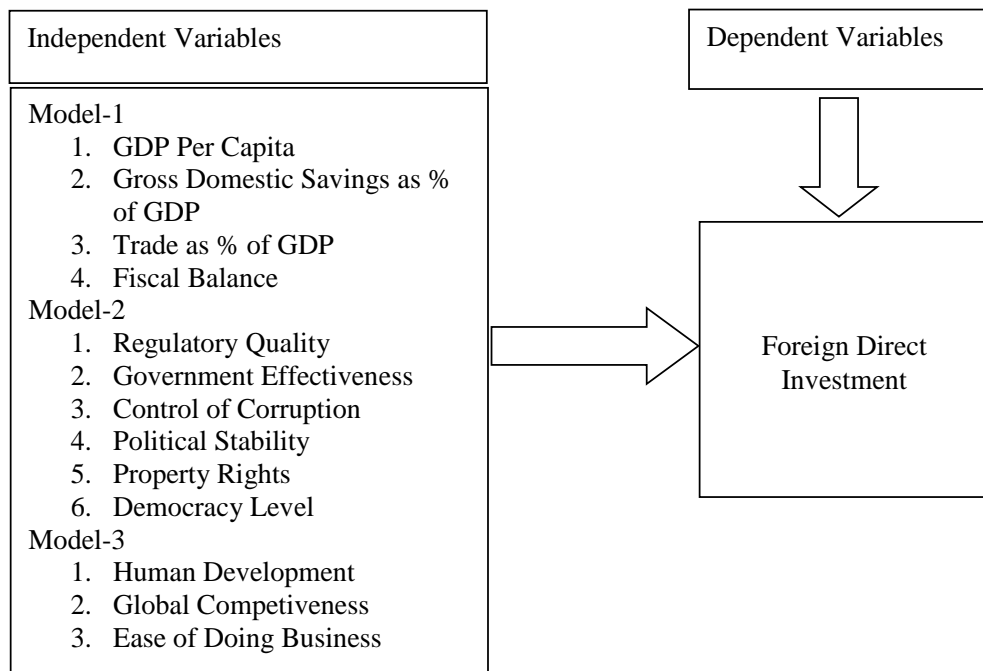


Figure 1. Conceptual Framework of the Determinants of FDI

METHODOLOGY AND DATA COLLECTION

The study is based on empirical findings using secondary cross-sectional data on foreign direct investment of 70 developed and developing countries during the 2009-2014. It has been analyzed by using regression results of global competitiveness, human development indicators, governance and economic performance of 70 countries as the explaining factors for growth of foreign direct investment. The secondary cross sectional time series data have been collected from World Bank, World Investment Report, UNCTAD, World Economic Forum, World Bank, IMF, Economist Intelligence Unit, Property Rights Alliance, World Fact book Central Intelligence Agency, UNDP.

Empirical Test of the Relationship of FDI and the Global Competitiveness, Human Development, Governance and Domestic Economic Performance

In this section there are three empirical testable model has been developed for the determinants of growth of FDI in 70 countries during the period of 2009-2014. The empirical model of growth of FDI has been developed here on the basis of theory and conceptual framework. The first model is conceptualized here as FDI as a function of domestic economic performance on the basis of classical and new classical theory and the second model of explaining the factors of growth of FDI as a function of governance on the basis of new institutionalism theory of growth. The final model of the factors affecting the growth of FDI is a function of global competitiveness, ease of doing business and human development indices on the basis of endogenous growth theory, Sen.'s development as freedom, new Institutionalism theory and Classical growth theory (Comparative advantage). The dependent and independent variables of the three model has been developed and defined as explained in the table 1.

The Model Specification

The three empirical model of the study has been developed as follows:

Model 1

$$\text{LogFDI}_{it} = b_0 + b_1 \text{GDPPC}_{it} + b_2 \text{Savings}_{it} + b_3 \text{FBalance}_{it} + b_4 \text{Trade}_{it} + \varepsilon_{it}$$

Where LogFDI is the average foreign direct investment country *i* at the end of time *t* (in logged million dollars), GDPPC is the per capita GDP, Savings is the gross domestic savings, FBalance is the fiscal balance, Trade is the trade (export plus import) as % of GDP and ε_{it} is the error terms.

Model 2

$$\text{LogFDI}_{it} = b_0 + b_1 \text{RQ}_{it} + b_2 \text{GE}_{it} + b_3 \text{COC}_{it} + b_4 \text{PolStab}_{it} + b_5 \text{IPRI}_{it} + b_6 \text{DI}_{it} + \varepsilon_{it}$$

Where RQ is the regulatory quality, GE is the government effectiveness, COC is the control of corruption, PolStab is the political stability and absence of violence, IPIR is the property rights, DL is the democracy level and ε_{it} is the error terms.

Model 3

$$\text{LogFDI}_{it} = b_0 + b_1 \text{HDI}_{it} + b_2 \text{GCP}_{it} + b_3 \text{EODB}_{it} + \varepsilon_{it}$$

Where HDI is the human development indices, GCP is the global competitiveness, EODB is the ease of doing business and ε_{it} is the error terms.

In the econometric regression analysis, the log of average value of FDI have been used for the period of 2009-2014 and other indicators as determinants specially the non-economic variables of the selected 70 countries basing on the availability of all the required data from different sources.

Econometric Regression Results

Results of Model 1

It is found from the empirical multiple regression analysis and indicated in table-2 the first model has found two independent variables have a significant positive relationship as the determinants of FDI inflows in the selected 70 countries during the period of 2009-2010. The R square of the regression shows that it has 44% explanatory influence of the variance of dependent variable can be accounted for by the predictor variables GDP per capita have significant positive impact on FDI inflows statistically significant at 0.01 level and the beta coefficient is 0.524. It is believed that per capita GDP as a proxy for market size of a country and the result implies that the foreign investor positively reacts to decide investment in a country of big market size. Gross domestic savings have significant positive effect on FDI inflows and statistically significant at 0.01 level and the beta coefficient is 0.372. It is assumed that savings is the country's capacity to invest and generate income and higher consumption and investors positively consider the gross domestic savings during investment in country. Other two variables fiscal balance and trade as % of GDP from the model was found no statistically significant effect on FDI.

Results of Model 2

The second model was found four independent variables have significant impact on FDI. The R square of the regression shows that it has 54% explanatory influence of the variance of dependent variable can be accounted for by the explanatory variables. Government Effectiveness has very positive impact on FDI as determinants and statistically significant at 0.01 level and the beta coefficient is 0.992. It shows that foreign investors are highly aware of investment decision as the government effectiveness confirms the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation. Multinational responses positively as the government effectiveness increase (index value moves from -2.5 to 2.5) that favors the investment climate to invest more. Control of Corruption have a significant negative correlation with FDI and statistically significant at 0.01 level and the beta coefficient is -0.621. The investors are concern of ability to stop corruption of the country as a

decision factor for investment in country and investors responses negatively when the index value moves towards 2.5 to -2.5. Political stability and absence of violence was found negative statistically significant association with FDI and significant at 0.05 level and the beta coefficient is -0.340. It confirms that political instability is a major concern as a determining factor of the growth of FDI. Higher the negative value of political stability index lowers the chance of alluring FDI in a country. As political stability decrease (index value will increase towards 2.5 to -2.5, higher the negative value less the political stability) the investment climate becomes less favorable to the investor will invest less. Property Rights indicators was found statistically positive significant effect on FDI and significant at 0.05 level and the beta coefficient is 0.602. The foreign investors response positively with well improved physical and intellectual property rights and their protection for economic well-being. No statistically significant association was found among the level of democracy, regulatory quality and the growth of FDI. The model two remarkably supportive to the new institutionalism theory for explaining as determinants of foreign direct investment.

Results of Model 3

The third model was found three independent variables have statistically positive significant association between FDI and the three variables of global competitiveness, human development and ease of doing business. The R square of the regression shows that it has 58% explanatory influence of the variance of dependent variable can be accounted for by the independent variables. The beta coefficient of human development index and global competitiveness index and ease of doing business are 0.481, 0.654 and 0.408 respectively. This means all of the three variables have a remarkable influence to the growth of dependent variable FDI and statistically significant at 0.01 levels. The Human Development Index (HDI) coefficients tells the country who have good indicators of human development like long and healthy life, knowledgeable and have a decent standard of living and capabilities of the people tends to have positive effect in alluring foreign direct investment. The regression result also gives us the message if a country tends to have a good set of institutions, policies, and factors that determine the high level of productivity of a country and ultimately economic growth can attract more foreign investment. The regression coefficient of ease of doing business implies that the country tends to have good regulatory environment that is conducive to business operation does have significant effect for explaining the growth of FDI in any country. The regression result of model three fully supportive to the endogenous growth theory, Sen.'s development as freedom theory, new institutionalism theory and classical growth theory.

Table 1

Dependent and Independent Variables for the determinants of FDI

Variable and expected sign	Measurement	Data Source	Supporting Theory
Dependent Variable			
FDI (LogFDI) n.a	Foreign Direct Investment in logged million US\$	World Investment Report, UNCTAD	
Model 1			
Independent Variable-Domestic Economic Performance			
GDP per capita (GDPPC) +	Annual growth rate of gross domestic product	The World Bank, World Development Indicators 2015	Classical growth theory (Comparative advantage) New Classical Growth theory (Solow)
Gross Domestic Savings (Savings) +	Gross domestic savings as % of GDP	The World Bank, World Development Indicators 2015 and IMF	
Fiscal balance (FBalance) +	Average fiscal balance as % of GDP	The World Bank, World Development Indicators 2015 and IMF	

Trade(Export+Import) (Trade) +	Export plus import as % of GDP	The World Bank, World Development Indicators 2015 and IMF	
Model 2			
Independent Variables- Governance indicators			
Regulatory Quality (RG) +	Regulatory Quality captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. Index ranging from approximately -2.5 to 2.5.	The World Bank, Worldwide Governance Indicators 2015	New Institutionalism
Government Effectiveness (GE) +	Government Effectiveness captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. Index ranging from approximately -2.5 to 2.5.	The World Bank, Worldwide Governance Indicators 2015	New Institutionalism
Control of Corruption (COC) -	Control of Corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. Index ranging from -2.5 to 2.5.	The World Bank, Worldwide Governance Indicators 2015	New Institutionalism
Political stability (PolStab) -	Political Stability and Absence of Violence/Terrorism measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism. Index ranging from -2.5 to 2.5.	The World Bank, Worldwide Governance Indicators 2015	New Institutionalism
International Property Rights (IRPI) +	The Index scores based on three factors: the state of their legal and political environment, physical property rights, and intellectual property rights. It measures the significance of both physical and intellectual property rights and their protection for economic well-being.	The International Property Rights Index 2015 ,Property Rights Alliance	New Institutionalism
Democracy Level (DL) +	The Democracy Index is based on five categories: electoral process and pluralism; civil liberties; the functioning of government; political participation; and political culture. (on a scale of 0 to 10).	Economist Intelligence Unit-Democracy Index-2015	New Institutionalism

Model 3 Independent Variables-Human Capability and Productivity of Economy			
Human Development (HDI) +	The Human Development Index (HDI) is a summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and have a decent standard of living and emphasizes people and their capabilities.	Human Development Index-2015, UNDP	Endogenous growth theory Sen's Development as Freedom New Institutionalism theory
Global Competitiveness (GCP) +	Global Competitiveness score of World Economic Forum that is defined as the set of institutions, policies, and factors that determine the level of productivity of a country and ultimately economic growth.	World Economic Forum-The Global Competitiveness Report 2015	Classical growth theory (Comparative advantage)
Ease of Doing Business (EODB) +	Ease of doing business ranks economies from 1 to 189, with first place being the best. A high ranking (a low numerical rank) means that the regulatory environment is conducive to business operation.	World Bank Ease of Doing Business Project	

Table 2

Empirical regression results on 70 FDI receiving countries during 2009-2014

Independent Variables	Dependent Variable: FDI		
	Coefficients (b)	t	p
Model 1 Independent Variable-Domestic Economic Performance			
GDP per capita	0.524**	4.879	.000
Gross Domestic Savings	0.372**	3.722	.000
Fiscal balance	-0.186	-1.768	.082
Trade(Export+Import)	-0.031	-0.321	.750
R square= .448; adjusted R square= .414; F= 13.167; p=.000; DW=1.938; n=70 *Statistically significant at 0.05 level and **Statistically significant at 0.01 level			
Model 2 Independent Variables- Governance indicators			
Regulatory Quality	-0.191	-0.743	.460
Government Effectiveness	0.992**	3.134	.003
Control of Corruption	-0.621**	-2.672	.010
Political stability	-0.340*	-2.437	.018
International Property Rights	0.602*	2.450	.017
Democracy	0.108	0.840	.404
R square= .547; adjusted R square= .504; F=12.692; p=.000; DW=1.924; n=70 *Statistically significant at 0.05 level and **Statistically significant at 0.01 level			

Model 3 Independent Variables-Human Capability and Productivity of Economy			
Human Development	0.481**	3.284	.002
Global Competitiveness	0.654**	4.155	.000
Ease of Doing Business	0.408**	2.709	.009
R square= .586; adjusted R square= .567; F=31.151; P=.000; DW=2.191; n=70			
*Statistically significant at 0.05 level and **Statistically significant at 0.01 level			
See appendix-1 for the list of countries included in the multiple regression.			

DOMESTIC ECONOMIC PERFORMANCE AND FDI IN SAARC AND ASEAN COUNTRIES

In this part of the study, overall economic performances of SAARC and ASEAN countries are analyzed with the empirical findings of regression result. Most of ASEAN countries domestic savings as % of GDP are remarkably high but huge variation of per capita GDP and the economy heavily relied on international trade specially Malaysia, Philippines, Singapore, Thailand and Vietnam does have high volume of trade as % of GDP that implies the product of ASEAN countries have high demand in the world market. There is little variation of fiscal balance among the ASEAN country and all of them have deficit financing. From the empirical findings it was found that higher the growth of per capita GDP higher the volume of FDI as GDP per capita is a proxy measurement of the size of the domestic market. Domestic savings as % of GDP also found as an important determinant of FDI. These two variable empirically confirms as the explaining factors of attracting FDI in developed and developing countries. Fiscal balance and export plus import as % of GDP has found no significant relation as determinants of FDI. Most of the ASEAN economy are performing well to attract FDI especially Singapore, Indonesia, Thailand and Vietnam. The table (4) shows that both Malaysia and Thailand are in declining trend of receiving FDI in 2014. The macro economic variables have shown strong responsive for growth and development and attraction of FDI in ASEAN region. Most of the ASEAN countries per capita income is more than US\$ 2000 and reached in middle income position. The per capita income of Malaysia has reached to US\$ 11307.10 and about to enter in the list of developed country and the Thailand is in the middle income trap with per capita income of US\$ 5,977.40 and reached in upper middle income group and Thailand needs to increase economic growth rate more than 3 % to get rid of middle income trap.

Despite the socio-cultural and political similarities, the economic performances of SAARC countries is not remarkable at all. The per capita income of India, Pakistan, Sri Lanka and Bangladesh US \$1581, \$1316, \$3839 and \$1086 respectively. Domestic savings of India is 29.3 % which is high as of some ASEAN countries. The empirical findings confirm that there is positive impact of domestic savings as % of GDP on FDI. The market size of India is also big as compared to other south Asian countries as a proxy by the size of GDP. The openness of international trade as measured by the trade as % of GDP is large in India than other FDI receiving countries in SAARC region. Most of the SAARC countries are lower middle income developing economy and GDP per capita fits below US \$ 2000. Among the SAARC countries India, Bangladesh and Maldives are growing more than 6% annually. In case of fiscal balance India and Bangladesh are in better position though the figure is negative of -4.1% and -3.0% of GDP respectively.

Table 3
Economic Performance of SAARC and ASEAN+ countries for the year 2014

Country	GDP at market prices (current) (US \$)	Per Capita GDP (US\$)	GDP growth rate	Domestic Savings as % of GDP	Fiscal Balance as % of GDP	Trade as % of GDP
SAARC						
Afghanistan	20,038,215,159	633.6	1.3	-21.4	-23.7	53.0
Bangladesh	172,886,567,164	1,086.80	6.1	22	-3.0	45.0
Bhutan	1,958,803,867	2,560.50	5.5	36.7	-3.2	94.0
India	2,048,517,438,874	1,581.50	7.3	29.3	-4.1	49.0
Maldives	3,061,829,145	7,635.50	6.5	-	-10.2	198.0
Nepal	19,769,642,123	701.7	5.4	7.2	0.2	53.0
Pakistan	243,631,917,866	1,316.60	4.7	8.5	-5.8	31.0
Sri Lanka	78,823,610,057	3,819.20	4.5	23.87	-7.0	39.0
ASEAN+						
Brunei	17,104,656,669	40,979.60	-2.3	62.6	-12.1	107.0
Cambodia	16,777,820,333	1,094.60	7.1	17.6	-2.3	129.0
Indonesia	888,538,201,025	3,491.90	5.0	33.9	-2.2	48.0
Lao PDR	11,997,062,177	1,793.50	7.5	20.9	-5.0	90.0
Malaysia	338,103,822,298	11,307.10	6.0	34.3	-3.6	138.0
Myanmar	64,330,038,665	1,203.80	8.5	18.55	-2.7	51.0
Philippines	284,777,093,019	2,872.50	6.1	17.2	-1.9	61.0
Singapore	307,859,758,504	56,284.60	2.9	52.1	-0.5	351.0
Thailand	404,823,952,118	5,977.40	0.9	30.7	-2.4	132.0
Vietnam	186,204,652,922	2,052.30	6.0	30.1	-3.9	170.0
S. Korea	1,410,382,988,616	27,970.50	3.3	34.5	-0.2	96.0
China	10,354,831,729,340	7,590.00	7.3	49.9	-2.6	42.0
Hong Kong	290,895,784,166	40,169.50	2.5	24	0.3	439.0

Source. World Bank, World Development Indicators- 2015, and World Fact book, Central Intelligence Agency 2015

Table 4
Foreign Direct Investment Inflow in SAARC and ASEAN+ countries) during 2009-2014 (million dollars)

Country	2009	2010	2011	2012	2013	2014
SAARC						
Afghanistan	76	211	83	94	69	54
Bangladesh	700	913	1136	1293	1599	1527
Bhutan	72	31	26	51	9	6
India	35634	27417	36190	24196	28199	34417
Maldives	158	216	426	228	361	363
Nepal	39	87	95	92	71	30
Pakistan	2338	2022	1326	859	1333	1747
Sri Lanka	404	478	981	941	933	944
ASEAN+						
Brunei	370	481	691	865	776	568
Cambodia	928	1342	1372	1835	1872	1730
Indonesia	4877	13771	19241	19138	18817	22580

Lao PDR	190	279	301	294	427	721
Malaysia	1453	9060	12198	9239	12115	10799
Myanmar	27	6669	1118	497	584	946
Philippines	1963	1298	1852	2033	3737	6201
Singapore	23821	55076	48002	56569	64793	67523
Thailand	4854	9147	1195	9168	14016	12566
Vietnam	7600	8000	7519	8368	8900	9200
S. Korea	9 022	9 497	9 773	9 496	12 767	9 899
China	95000	114734	123985	121080	123911	128500
Hong Kong	55535	70541	96581	70180	74294	103254

Source. World Investment Report 2015, UNCTAD

GOVERNANCE AND INSTITUTIONAL EFFECTIVENESS IN SAARC AND ASEAN AND FDI

The empirical findings of the study indicate that governance indicators specially control of corruption, government effectiveness, political stability property rights are statistically sensitive to attractiveness of FDI. Political stability, control of corruption and regulatory quality are statistically significant and negatively correlated with FDI and government effectiveness and property rights does have positive significant statistical relation as determinants of FDI. The World Bank world governance indicators reveal the facts about the world wide governance in the country that is also important intuitional effectiveness determinants of attracting foreign direct investment. The countries those have better value of governance indices are receiving more foreign direct investment in ASEAN+ and SAARC countries. Singapore, Malaysia, Hong Kong, Taiwan, Thailand and China has better index. It tends to have positive relation between higher the governance index and more the attraction of foreign direct investment. The index shows the value -2.5 to 2.5 and 0 is the average with higher positive value indicates better governance (World Bank, 2015). In SAARC region control of corruption, political stability and regulatory quality of Bangladesh and Pakistan is shown negatively sensible to attract FDI as they belong to poor governances and one of the lowest value of indices. The governance indicators of India and Sri Lanka are better and India receives highest in SAARC region. The government effectiveness indicator has found high positive impact on FDI both in SAARC and ASEAN countries as it provides the perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies (World Bank, 2015). Only Bhutan and Sri Lanka have positive government effectiveness index in SAARC region. In ASEAN region Cambodia, Lao, Myanmar, Indonesia and Vietnam have negative value of the index. But Indonesia and Vietnam have marginal negative value and close average and the countries are doing well in attracting FDI. Comparing with the two regions SAARC countries are characterized by weak institutional effectiveness and are getting low inflow of FDI. The institutional effectiveness of Singapore and Malaysia in ASEAN region are better and tend to have more attractions of FDI.

Table 5

The World Governance Indicators Indices for SAARC and ASEAN+ Countries for the year 2014

Country	Control of corruption	Government Effectiveness	Political Stability	Regulatory Quality	Rule of Law
SAARC					
Afghanistan	-1.33	-1.34	-2.46	-1.13	-1.53
Bangladesh	-0.91	-0.77	-0.88	-0.94	-0.72
Bhutan	1.27	0.27	1.00	-1.01	0.35
India	-0.46	-0.20	-0.96	-0.45	-0.09
Maldives	-0.11	-0.37	0.88	-0.36	-0.49
Nepal	-0.54	-0.83	-0.70	-0.85	-0.68
Pakistan	-0.81	-0.75	-2.44	-0.69	-0.78
Sri Lanka	-0.34	0.09	-0.25	-0.08	-0.15
ASEAN+					
Brunei	0.63	1.08	1.27	0.97	0.50
Cambodia	-1.08	-0.68	-0.04	-0.40	-0.93
Indonesia	-0.58	-0.01	-0.37	-0.10	-0.35
Lao PDR	-0.76	-0.39	0.46	-0.85	-0.71
Malaysia	0.48	1.14	0.34	0.84	0.64
Myanmar	-0.92	-1.28	-1.06	-1.39	-1.17
Philippines	-0.44	0.19	-0.70	-0.01	-0.33
Singapore	2.12	2.19	1.23	2.23	1.89
Thailand	-0.41	0.34	-0.91	0.27	-0.15
Vietnam	-0.50	-0.06	0.00	-0.59	-0.31
S. Korea	0.49	1.18	0.19	1.11	0.98
China	-0.33	0.34	-0.46	-0.27	-0.33
Hong Kong	1.64	1.84	1.13	2.05	1.85
Taiwan	0.84	1.37	0.80	1.30	1.20

Source. World Bank, Worldwide Governance Indicators- 2015

Table 6

Democracy and International Property Rights Index 2015 of SAARC and ASEAN+ countries

Country	Democracy Index-2015 (Economist Intelligence Unit) (0-10)	International Property Rights Index Score (Property Rights Alliance) (0-10)
SAARC		
Afghanistan	2.77	-
Bangladesh	5.73	2.6
Bhutan	4.93	-
India	7.74	5.2
Maldives	-	-
Nepal	4.77	4.2
Pakistan	4.40	3.6
Sri Lanka	6.42	4.8
ASEAN+		
Brunei	-	-
Cambodia	4.27	3.5
Indonesia	7.03	4.9
Lao PDR	2.21	3.6
Malaysia	6.43	6.6
Myanmar	4.14	2.5
Philippines	6.84	5.1
Singapore	6.14	8.1
Thailand	5.09	4.9
Vietnam	3.53	4.5
S. Korea	7.97	5.9
China	3.14	5.4
Hong Kong, China	6.50	7.6

Source. UNDP, Human Development Reports-2015 and Economist Intelligence Unit-Democracy Index-2015 and Property Rights Alliance-The International Property Rights Index 2015 (Ranking among the 129 countries)

The regression result of the study has found no statistically significant relationship between the growth of FDI and the level democracy as determinants. The Democracy Index is based on five categories: electoral process and pluralism; civil liberties; the functioning of government; political participation; and political culture. (On a scale of 0 to 10). It has been noticed that among the SAARC region India belongs the highest score of democracy index and receives maximum amount of FDI inflows. The position of Bangladesh is 3rd in this region and Sri Lank has belonged the second position of democracy index. Democracy index tends to have positive relation for attracting higher FDI inflow in SAARC region but statistically not significant. On the other hand, in ASEAN+ countries excluding China, Vietnam, Lao PDR and Myanmar the democracy index is reasonably high but China receives the highest FDI and the democracy index of Indonesia is high and receives higher FDI but the empirical result shows no statistical significant relationship.

The International Property Rights Index serves as a barometer for the status of property rights across the world. The index scores based on three factors: the state of the legal and political environment, physical property rights, and intellectual property rights. It measures the significance of both physical and intellectual property rights and the protection for economic well-being. The overall grading scale

ranges from 0 to 10, with 10 being the highest and 0 being the lowest value (i.e. most negative) for a property rights system within a country (Property Rights Alliance 2015). The empirical result has found positive statistical significant relationship in attractive FDI. In SAARC region again India has got the highest value of International Property Rights Index (5.2) and Bangladesh belongs the lowest value of International Property Rights Index (2.6) which is the second lowest among in the world economies that confirms the new institutional theory of growth and it has positive relation of attraction of FDI. The new institutional theory is supportive in case of ASEAN+ countries that confirms by the high value of Singapore, Hong Kong, Malaysia, China, Korea and Thailand for attraction of FDI. In ASEAN region Lao PDR, Cambodia and Myanmar holds the lowest score of property rights and receives lower FDI. The investors are very much aware of legal and property rights of a country for investment decision.

COMPETITIVENESS, EASE OF DOING BUSINESS AND HUMAN DEVELOPMENT IN SAARC AND ASEAN COUNTRIES AND FDI

The competitiveness and cost of doing business and human development are the important and indispensable factors in attracting FDI. Most of the SAARC countries and half of the ASEAN countries position in ease of doing business is not business friendly as poorly ranked. A high ranking (a low numerical rank) means that the regulatory environment is conducive to business operation. The regression result reveals that all of the three components are statistically positively significant for the growth FDI in both developed and developing countries during the period of 2009-2014.

India and Sri Lanka are in a better position in ease of doing business ranking of World Bank (2015). The ranking of SAARC countries are India 130, Sri Lanka 107, Pakistan 138 and Bangladesh 174. Bangladesh is the worst position of world ranking of ease of doing business in SAARC region. The poor business environment of Bangladesh and Pakistan can reduce the eagerness of investors to invest. The better the business environment the more the attractiveness of SAARC countries to FDI as confirmed by the business environment of India in attracting FDI. Comparing with the ASEAN+ countries Singapore holds the top position and Hong Kong, Malaysia, Thailand are in better position for business operation. China is the middle of the ranking but receiving the highest amount of foreign direct investment. It has been empirically proved that better business environment can attract more FDI. ASEAN countries are more business friendly than SAARC countries and receiving more FDI.

Table 7

The Global Competitiveness Index and Global Rankings of Ease of Doing Business for SAARC and ASEAN Countries for the year 2014

Country	Human Development Index (UNDP)(0-1)	Global Competitiveness Score (1-7)	Ease of Doing Business Ranking
SAARC			
Afghanistan	0.465	-	177
Bangladesh	0.570	3.72 (109)	174
Bhutan	0.605	3.80 (103)	71
India	0.609	4.21 (71)	130
Maldives	0.706	-	128
Nepal	0.548	3.81 (102)	99
Pakistan	0.538	3.42 (129)	138
Sri Lanka	0.757	4.19 (73)	107
ASEAN+			
Brunei	0.856	-	84
Cambodia	0.555	3.89 (95)	127
Indonesia	0.684	4.57 (34)	109

Lao PDR	0.575	3.91 (93)	134
Malaysia	0.779	5.16 (20)	18
Myanmar	0.536	3.24 (134)	167
Philippines	0.668	4.40 (52)	103
Singapore	0.912	5.65 (2)	1
Thailand	0.726	4.66 (31)	49
Vietnam	0.666	4.23 (68)	90
S. Korea	0.898	4.96 (26)	4
China	0.727	4.89 (28)	84
Hong Kong, China	0.910	5.46 (7)	5
Taiwan		5.25 (14)	-

Source. World Economic Forum-The Global Competiveness Report 2014-2015 (Ranking among the 144 countries) and World Bank: Ease of doing business index (1=most business-friendly regulations).

The global Competitiveness score of World Economic Forum that is defined as the set of institutions, policies, and factors that determine the level of productivity of a country. The productivity of a country determines its ability to sustain a high level of income; it is also one of the central determinants of its return on investment, which is one of the key factors explaining an economy's growth potential. The score is 0-7 (7= most competitive and productive countries). The empirical findings of the study confirm that the productivity of country or competitiveness tend to attract more FDI. It is seen in the table (7) that the high scorer of global competitiveness index of ASEAN+ countries like Singapore, China, Malaysia, Thailand, Indonesia, Taiwan, Hong Kong are the major recipient of foreign direct investment that means these ASEAN+ countries except Myanmar and Cambodia has high productivity to sustain high level of income and return on investment and thereby economic growth. The ASEAN+ countries are performing well in attracting foreign direct investment. Among the SAARC countries India (4.21) and Sri Lanka's (4.19) score is high that confirms the productivity of India is high and receiving a sizable amount of foreign direct investment. The position of Bangladesh and Pakistan is far behind only (3.72) and (3.42) score respectively that implies the lower competitiveness of Bangladesh and Pakistan and return on investment is low among the SAARC countries and receiving meager amount of FDI.

Considering the human development index that emphasizes people and their capabilities should be the ultimate criteria for assessing the development of a country, not economic growth alone. The Human Development Index (HDI) is a summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and have a decent standard of living. The empirical findings reveal that higher the ranking score of HDI tend to promote more FDI in the FDI receiving countries. The human development index supports the endogenous growth theory for explaining the determinants of annual average growth rate and also applicable to explaining as an important factor of growth of foreign direct investment. It is having been seen that the country which has high HDI that receives high foreign direct investment in ASEAN+ and SAARC countries. In SAARC region India and Sri Lanka has high HDI and India receives the highest FDI among the region. Bangladesh is holds the fifth position among the SAARC region. In ASEAN+ countries Singapore, Hong Kong, China, Malaysia, Thailand and Indonesia has high HDI value and receives the most FDI. In the year 2014 China receives 128500 million US\$, Singapore 67523 million US\$, Indonesia 22580 million US\$ followed by Thailand 12566 million US\$ and Vietnam is in right track that attracts 9200 million US\$. Human development is one most important determinants of FDI and to attract more FDI the poor scorer countries of SAARC and ASEAN needs to improve the capabilities, knowledge and quality of the life of people.

POLICY RECOMMENDATIONS AND CONCLUSION

The above empirical findings, analysis and discussion would suggest that the prospect of SAARC and ASEAN countries in attracting FDI is very bright in many aspects of world economic situation and

trade relations among the nations. The countries do have high per capita income and domestic savings and other better domestic economic performances tend to receive more FDI. The non-economic performances of both the regions would suggest that the countries do have better governance in terms of government effectiveness, property rights and better control of corruption, political stability and better regulatory quality can attract more FDI. Global competitiveness, business friendly environment, capability and better quality of life of people would play remarkable role as determinants of FDI in both the regions. It is seen that the ASEAN countries domestic economic performances, governance indicators, competitiveness and human capabilities are better than that of SAARC countries. It reveals the countries in both the region have intuitional weakness except Singapore and Malaysia. The countries in SAARC region needs to improve intuitional effectiveness more than the ASEAN countries in order to receive more FDI. The MNCs are now more concern about the political stability, control of corruption, government effectiveness, regulatory quality, property rights, human capabilities and productivity of the economy to make investment decision of a country.

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Appendix-1

List of Countries for Empirical Studies

Algeria	Egypt	Moldova, Republic of	Singapore
Argentina	El Salvador	Morocco	Spain
Australia	Georgia	Myanmar	Sri Lanka
Azerbaijan	Ghana	Nepal	Swaziland
Bangladesh	Greece	Netherlands	Sweden
Bhutan	Guatemala	Nicaragua	Switzerland
Brazil	Guyana	Nigeria	Thailand
Bolivia	Honduras	Norway	Uganda
Cambodia	Hong Kong, China	Pakistan	Ukraine
Cameroon	Hungary	Panama	United Kingdom
Canada	India	Paraguay	United States
Chile	Indonesia	Peru	Uruguay
China	Italy	Philippines	Venezuela,
Colombia	Kazakhstan	Poland	Vietnam
Costa Rica	Kenya	Portugal	Zambia
Côte d'Ivoire	Lao PDR	Romania	Zimbabwe
Czech Republic	Malaysia	Russian Federation	
Dominican Republic	Mexico	S. Korea	

7-ELEVEN SETS TO OPEN STORE IN VIETNAM: WHAT LIES AHEAD?

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ABSTRACT

7- Eleven has signed a master franchise agreement with Seven System Vietnam Co., Ltd. to develop and operate 7- Eleven stores in the Southeast Asian country, the Japanese company said in a press released in July 2015. The expansion to Vietnam marks the company's first stake in the Pacific Rim since 7- Eleven entered Indonesia in 2009. This paper outlines some suggestions for strategic launch of 7-Eleven new convenience store launched in Ho Chi Minh City in 2017. This study examines the S-R relationship of store image and customer behavior in retail sector using the Stimulus-Organism-Response (S-O-R) framework. The research focuses on how multi-attributes of store image affect customers' preference from past experience of current convenience store chains.

Keywords: store image, convenience store, S-O-R framework

INTRODUCTION

1. The overview of convenience stores

According to the America Association for Convenience and Fuel Retailing (NASC), a convenience store is defined as: "...a retail business with primary emphasis placed on providing the public a convenient location to quickly purchase from a wide array of consumable products (predominantly food or food and gasoline) and services." There are six types of stores, following: kiosk, mini, limited selection, traditional, expanded and hyper convenience store.

Also according to the NACS, most convenience stores possess the following characteristics:

- Typically the size building less than 5,000 square feet (almost 460 square meters);
- Parking space and convenient access for pedestrians;
- Extended operation hours for mostly open 24 hours, seven days a week;
- Possess stock of at least 500 stock keeping units;
- Available products include: groceries, beverages, snacks, confectionery, tobacco, etc.

Meanwhile, some researchers also take this term into consideration. Baron et al. (2001) describes convenience as a store of 3,000 square feet size (280 square meters) in a location close to the customers' houses that has a "wide and shallow" product range. The store's conception of convenience is expressed in some characteristics, such as long operating hours (open for at least 16 hours a day, six and even seven days a week) and a self-service approach that accommodates quick shopping. Coughlan et al. (2006, as cited in Ming-Sung Cheng et al., 2009) describes it in more detail as: "a small, high-margin grocery store that offers a limited selection of staple groceries, and other convenience items such as ready to-heat and ready-to-eat foods". In term of product range, it covers the urgent needs and impulse buying of the local customers without providing the wide choice in brands or sizes of a supermarket (Jones, 1986; Guberman, 1971). As a trade-off for the convenience factor, Guy (2004) indicated that price of products selling in those stores seem to be higher on average than in supermarkets.

Sparks (1996) and Higgins (2003) (as cited in Ming-Sung Cheng et al., 2009) asserted that the first convenience store appear in Dallas, USA in 1927. The owner of the chain was Southland Corporation, and those stores were the precursor of famous 7-ELEVEN convenience store chain (Hung, 2005). Since 1960s, the concept of convenience stores expanded all over US's retail market, and then, to others territories of the world (Ming-Sung Cheng et al., 2009; Zairis & Evangelos, 2014). In the globalization era of convenience store business, stores are grouped into different chains which belonged to multinational or national brands, and they developed using the franchising method (Guberman, 1971; Jones, 1986).

With regard to customer behaviors toward convenience stores chain, Zairis and Evangelos (2014) comprehensively synthesized some features from various last researches. The development of convenience store business is based on the high demand of customer as “to achieve a high level of quality, convenience and service, combined with an efficient use of the time spent for their purchases” (Zairis & Evangelos, 2014). They also found that usual customers shopped at store two to three times a week or even on daily basis, and male customer visited more frequently than female. Besides, customer’s income has a positive effect on the purchase frequency at convenience stores. The average time a customer spending in a convenience store is about three to four minutes (Brown, 1989), and they are unwilling to travel long distance for shopping (Lorch & Smith, 1993).

2. The market of convenience stores in Vietnam

According to Nielsen report in 2015 and Vietnam WTO Center report in 2016, convenience store chain is predicted to have an evolutionary development and more positive role in Vietnam retail industry within the next few years. As the stores are increasingly open by both international and domestic enterprises, the convenience store sector in Vietnam has been already under intensive competition, especially in two most developing cities, Hanoi and Ho Chi Minh City. Therefore, it is more and more crucial for retailers to understand what attracts Vietnam customers to visit and to patronize a convenience store.

Vietnam’s accession to World Trade Organization (WTO) since 2007 has been considered as a landmark of Vietnam’s commitment to further opening its market and further participating in the international market. One of the conditions of Vietnam’s entry to WTO is the opening of the service industry to foreign investment, so from January 2015, non-domestic retailers could take full ownership of commercial property in Vietnam. In May 2013, the Vietnamese government took another step toward deregulation by announcing that from June 2013 significant exemptions would be made to the planning laws, effectively removing a number of barriers to expansion and prompting a significant rush of potential investors (Nielsen, 2015). Due to the retail liberation and rapid growth in market, the retail industry is regarded as one of the important and promising sectors within the service industry in Vietnam. Based on Global Retail Development Index of ATKearney (US), Vietnam has been one of the top global 30 emerging retail markets since 2008. The retail industry in Vietnam has grown stably, retail sales increased 60% in the period from 2009 to 2013 and forecast to reach 109 billion dollars in 2017 (Deloitte, 2014).

The retail channels of Vietnam varies from traditional markets including wet and flea markets, small grocery; and the modern markets including hypermarkets, supermarket, shopping malls, department stores, convenience stores, E-commerce (Dao & Xie, 2016). According to Nielsen’s 2015 report, traditional retail stores accounted for 80 percent of fast-moving customer goods (FMCG) revenue, but Vietnamese customers are gradually moving away from that and more towards convenience stores. It also indicated that convenience stores rose from 147 stores in 2012 to 348 in 2014, and kept rising dramatically. The ratio of a convenience store over people in Vietnam is about 1:69,000, compared to 1:1,800 in South Korea, 1:5,500 in Thailand, and 1:21,000 in China. The shift assumed to be driven by stable economies, rising disposable income, changing lifestyle patterns, favorable demographic trends and increasing urbanization, alongside improvements in food and non-food offerings and aggressive expansion by retailers. In Vietnam Retail Forum 2014, it was concluded that *increased customer expectations and greater levels of disposable income were driving massive changes in Vietnam's retail sector with convenience stores set to overtake family shops and markets as the key retail distribution channels.*

Dao and Xie (2016) indicate some important forces which lead to the increase of convenience store chains in Vietnam, followings: (1) Vietnam customer behaviors having changing day by day; (2) High qualified product and food safety are attracted by customers; (3) The utility criteria and saving time will be preferred; (4) The strong investment from giant foreign retailers; (5) The intense competition of local enterprises in developing conveniences stores will make Vietnam’s retail market more dynamic; and last but not least, (6) More support from government’s policy and the validity of

international trade agreement (namely the Trans-Pacific Partnership, the EU-Vietnam Free Trade Agreement, and the ASEAN Community)

The first convenience store chain – Shop & Go – opened in Vietnam in 2005. Since then, branded convenience store chains have been seeking the opportunity for an impressive growth in the domestic market, by expanding their network in the most appropriate locations, arousing the intense interest among other retail channels. Compared to four growth stages of convenience store in Taiwan (Ming-Sung Cheng et al., 2009), the development convenience stores in Vietnam market can be classified at the Growth stage II from 2015, when the convenience store sector is growing sharply and the number of store is blooming. In June 2016, the number of stores from four foreign brands Shop & Go (Singapore), Circle K (US), Family Mart (Japan), B's Mart (Thailand), and Ministop (Japan) are respectively as followed 108, 173, 108, 146, and 53. In 2020, Family Mart plan to achieve 1,000 stores, and Ministop is in the 500 goals. Meanwhile, many Vietnam's domestic enterprises are quickly joining the competition of convenience store chains in some big cities. Saigon Co-op (Saigon Union of Trading Co-operatives) now has nearly 200 Co.op convenience stores and SatraFood (Saigon Trading Group) has 60 stores. Notable, Vietnamese conglomerate Vingroup, who merely joined the convenience store market in 2014, has opened 500 Vinmart+ stores at the end of 2015, and their target is 1,000 stores across the nation.

Moreover, 7-Eleven – the brand with the largest number convenience stores worldwide - has announced to enter the Vietnam market in 2017 (Nikkei, 2015). Seven System Viet Nam JSC is the Master Franchisee of the 7-Eleven convenience store system in Viet Nam. Their first store will be open in April 2017 in Ho Chi Minh City. Their plan is to reach 300 stores in 2020, and 1,000 stores in 2027. They will do this by development of co-prosperity with their business partners and by listening and quickly adapting to the customers' ever changing needs. Their commitment is to deliver "Every Day Quality and Convenience" to Viet Nam.

3. Rationale

In term of service, convenience stores from foreign chains are differentiated themselves from their domestic competitors through 24/7 opening, having spaces to eat, high levels of service and a better understanding of customer expectations. Chen and Hsieh (2011) asserted that customer shopping behavior has been changing when more customers considers shopping itself is a pleasant experience rather than just a chore. Nowadays, customers seek an experience, which is more than product variety or quality, and that is a synthesis of multi attributes which create a favorable retailer and store image. Baker et al. (1992), point out that, when retailers begin to find it extremely difficult to gain advantages in terms of 4Ps (product, price, promotion, and place), the store itself becomes an opportunity for market differentiation, and one method of differentiation is to actively promote their store image (Baker & Grewal, 1994).

Store image, or store personality, is described as “the way in which the store is defined in the shopper’s mind, partly by its functional qualities and partly by an aura of psychological attributes” (Martineau, 1958). Theoretically, store image is referred to as an overall impression that customers hold for a retail store, and is usually composed of both cognitive and affective components. The perception of store image is generally considered to be a customer’s attitude toward the store and it is widely held that a customer’s attitude leads to a certain behavior or behavior pattern. Therefore, most researchers associate store image with the customer’s store choice, patronage, satisfaction, and loyalty (Koo, 2003; Yoo & Chang, 2005; Jha & Arona, 2012; Naderian, 2012; Hosseini et al., 2014). Moreover, researchers believe that store image is an important determinant in a customer’s decision-making process involving store choice and patronage behavior (Hu, 2011). Thang and Tan (2003) argued that the view of customers regarding the store image features affects their store preferences. This premise is true only if the store image expectations of customers are in line with their perceptions.

The relationship between store image and customer behavior has received considerable attention from both practitioners and academics in term of some modern retail channels, such as shopping malls,

department stores (Baker, 1994; Watanabe et al., 2013; Kumar et al., 2014), and especially food and grocery retail as grocery stores, supermarkets, hypermarkets (Doyle & Fenwick, 1975; Sirohi et al., 1988; Morschett et al., 2005; Theodoridis & Chatzipanagiotou, 2008; Chang & Luan, 2010; Prashar, 2013; Netopil et al., 2014; Nilsson et al., 2015). However, the understanding regarding customer perception and preference of the convenience store chains is still under-researched. Moreover, the importance of store image to the success of retail enterprises in some economies has been highlighted in numerous studies, but not in Vietnam's context. Therefore, it is necessary to conduct a research on how store image affects customer preference in the case of convenience store chains, which is mediated by customer perception. Studying customer perception and preference on store image further enhances the knowledge of marketers; marketers can use this knowledge in acquiring more loyal customers and meeting their requirements in terms of store image.

RELEVANT LITERATURE AND MODEL DEVELOPMENT

1. The S-O-R Model

The Stimulus-Organism-Response (S-O-R) environmental psychology model was developed by Mehrabian and Russell in 1974. It consisted of stimulus as an independent variable, organism as mediator, and response as the dependent variable. The authors provided the blend of three emotional states of customer: pleasure, arousal and dominance (PAD) which could influence an individual's internal state and approach-avoidance behaviors. The model included elements of environmental stimuli, emotional states and behavior, and the finding was that the store environment affects customer's perceptions and behaviors within a store. In other words, Sullivan and Adcock (2002) interpreted that an approach behavior is obviously the more desired one which means a customer has an interest in the store and wants to spend additional time. Thus, the purchase is likely to increase. Generally, the S-O-R framework of Mehrabian and Russell indicated that the environmental cues (S - Stimuli) could affect the intervening emotional state of the customers (O - Organism), and then follow is a behavior response (R - Response).

Within the retail business, more research has adopted environmental psychology approach S-O-R model, and they developed the logical outcome of the framework. Donovan and Rossiter (1982) tested on retail stores and employed S-O-R model to study the relationship between environmental stimulus and behavioral intention by two emotional dimensions- pleasure and arousal. In 1998, Yoo et al. showed that store characteristics have a pronounced effect on customers' in-store emotions, and that these emotional experiences serve as critical mediators in the store characteristics – store attitudes relationship. Wakefield and Blodgett (2002) discovered that customer's good emotional status had positive correlation with the duration of their stay, the quantity of their shopping commodity and the amount of their consumption, while Sweeney and Wyber (2002) found that emotional condition and perceptual process could interfere with the impact of musical stimulus on approach - avoidance behaviors at the same time.

Although there were many previous research applied S-O-R model in retailing sector, Thang and Tan (2003) claimed that they mostly concentrated on the relationship amongst the variables, and Teh et al. (2014) pointed out shortcoming of not having consistent results and general model. In order to overcome these gaps, an S-R model of customer retail purchase behavior focused on the most important elements to succeed with store image was proposed in 2003 by Thang and Tan. They further state that attributes of store image and appearance positive affect customer preference for the stores, and customer preference is based on their post-visit ranking of assigned stores. The stimuli that pertained to store attributes included merchandising, store atmosphere, in-store service, convenience, reputation, promotion, facilities and post-transaction service.

2. Customer's store perception and preference

Du Plessis and Rousseau (2003) defined perception of customer as the process in which a person selects, arranges and interprets stimuli, then these stimuli are filtered and adjusted to become one's own view of the world. Meanwhile, Schiffman and Kanuk (2007) described perception as the stages of "selecting, rearranging, and interpreting external triggers into a cohesive picture" (as cited in

Hosseini et al., 2014). Solomon et al. (2006) assert that there are three stages in the perception process, respectively the exposure stage, the attention stage and the interpretation stage. After the exposure stage, the brain takes in the stimuli in the attention stage and according to the past experiences, interprets the stimuli. Oliver (1980) points out that the driven factors of perception are both stores' tangible characteristics (e.g. format or list size, distance from home) and intangible characteristics (e.g. environment).

Moye and Kincade (2002) argued that on store image factors form customer perception on how they react to each product. Thompson and Chen (1998) indicated that obtaining customer views on the store image and using store image to influence customer behavior is important. Thus, in order to attract more customers, it is necessary to improve a sense of customer views on the store image and then design the store accordingly. When applying S-O-R model to investigate the relationship between store image, customer's store perception and preference in the context of Singapore's department stores, Thang and Tan (2003) found out that the more favorable multi-attributes of store image to customer perception is, the more preference they will have for the store. Moreover, they provided a definition of customer preference as "the customers' hierarchical prioritization of the stores as a result of their patronage of the stores".

3. Store image

Store image has become an important research topic since Martineau (1958) firstly proposed the term "retail personality" and defined store image as how customer regards a store according to its attributes, and the process works functionally and psychologically. Martineau explained that store image includes its own characteristic attributes and they help the customer differentiate it from that of other stores. Besides, Chang and Luan (2010) reviewed some definitions of store image from previous research, such as store image as "the complex of a customer's perceptions of a store on different attributes" (Bloemer & De Ruyter, 1998), or as "how a given retailer is perceived by customers and others" (Berman & Evans, 2007). In term of studying on store image of convenience store chains and extending the research of Thang and Tan (2003), this research adopts the definition of store image which is indicated by Chang and Luan (2010) as "the complex of a customer's perceptions of a store on different attributes based on the customer's previous experience."

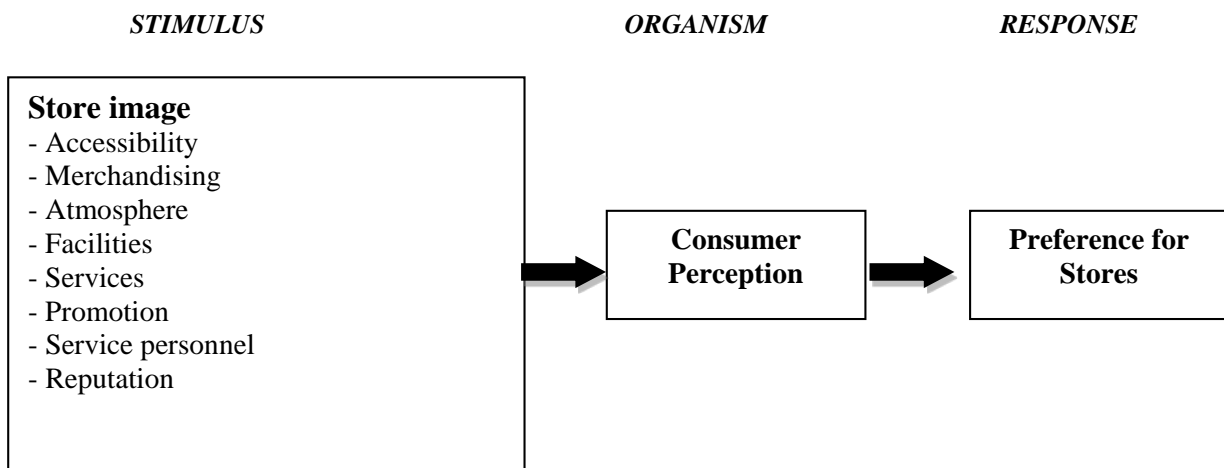
In the highly competitive retailing industry, retailers are trying hard to position themselves in customer's mind and to create a differentiating image. Among a range of dominant driven factors to customer behaviors, store image plays an important competitive advantage for retailers. Numerous studies have been conducted to examine the role of store image as a predictor of store loyalty (Sirohi et al., 1998; Koo, 2003), customer satisfaction (Oliver, 1980; Theodoridis & Chatzipanagiotou, 2009; Jha & Arora, 2012; Naderian, 2012; Watanabe et al., 2013; Demirgünes, 2014), store perception and preference (Thang & Tan, 2003; Morschett et al., 2005; Chang & Luan, 2010; Champion et al., 2010). Therefore, most researchers associate store image with the customer's store choice or patronage behavior. Furthermore, researchers believe that store image is an important determinant in a customer's decision-making process involving store choice and patronage behavior (Hu, 2011).

Many studies agree that store image is a multi-attribute model (Kumar et al., 2014), which consists of both visible attributes (functional qualities) and tangible attributes (psychological attributes). Martineau (1958) identified four core attributes: layout and architecture; symbols and colour; advertising; and sales personnel. However, Lindquist (1974) indicated nine attributes which are commonly used and considered as the most enduring sources from a review of 19 previous studies. These nine attributes are: merchandise, service, clientele, physical facilities, convenience, promotion, store atmosphere, institutional factors, and post-transaction satisfaction. Thang and Tan (2003) investigated the effect of store image through eight attributes, following: merchandising, store atmosphere, in-store service, convenience, reputation, promotions, facilities, post-transaction service. Because Shim and Kotsiopulos (1992, as cited in Paulins & Geistfeld, 2003) found that regarding to various retail store types, the factors of store attributes affecting store preference would be different, this research cannot apply exact the store image attributes of Thang and Tan (2003) for convenience store chains context. Moreover, not many previous researches have conducted in term of convenience

store business. Thus, some papers studying on store image in other relevant food and grocery retailing channels were reviewed, such as supermarket chain (Sirohi et al., 1998, Theodoridis & Chatzipanagiotou, 2008), grocery stores (Doyle & Fenwick, 1975; Morschett et al., 2005; Huddleston et al., 2009; Hsu et al., 2010; Netopil et al., 2014), hypermarket (Chang & Luan, 2010), and even the mix of three channels of Prashar (2013) and Nilsson et al. (2015). In summary, there are eight contributes that can be come up with in examining the convenience store image, including convenience, merchandising, atmosphere, facilities, services, promotion, service personnel and reputation.

4. Research model and hypothesis

Based on reviewing of empirical researches about S-O-R model, customer's store perception and preference, and store image, research model and eight hypotheses have been proposed to be tested as store image has positive influence on customer preference.



There are eight hypotheses relating to the research, as followings:

- **H1:** There is a statistically significant positive relationship between the convenience of the store and the customer preference.
- **H2:** There is a statistically significant positive relationship between the merchandising of the store and the customer preference.
- **H3:** There is a statistically significant positive relationship between the store atmosphere and the customer preference.
- **H4:** There is a statistically significant positive relationship between the facilities of the store and the customer preference.
- **H5:** There is a statistically significant positive relationship between the quality of store services and the customer preference.
- **H6:** There is a statistically significant positive relationship between the promotion of the store and the customer preference.
- **H7:** There is a statistically significant positive relationship between the service personnel and the customer preference.
- **H8:** There is a statistically significant positive relationship between the reputation of the store and the customer preference.

METHODOLOGY AND SAMPLING

According to the framework which was introduced in literature review part, the component attributes of store image includes convenience, merchandising, atmosphere, facilities, services, promotion, service personnel and reputation. The questionnaire survey was developed from eight variables containing many items which are shown in the below table.

Variables	Measures and composites	Reference
<i>Convenience</i>	Suitable location of the store Ease of travel Ease of finding goods	Chang & Luan (2010); Hsu et al. (2010); Netopil et al. (2014)
<i>Merchandising</i>	Merchandise mix Merchandise quality Merchandise arrangement Labeling Full shelves Value for money	Sirohi et al. (1998); Morschett et al. (2005); Theodoridis & Chatzipanagiotou (2008); Prashar (2013)
<i>Store atmosphere</i>	Cleanliness Decorations Interior environment (e.g. temperature, light, music) Accessibility of merchandise rails	Theodoridis & Chatzipanagiotou (2009); Chang & Luan (2010); Hsu et al. (2010); Prashar (2013); Nilsson et al. (2015)
<i>Facilities</i>	Physical facilities Dining area Parking area	Doyle & Fenwick (1975); Hsu et al. (2010); Chang & Luan (2010)
<i>Services</i>	Convenience of payment Easy solving of reclamations and complaint Helpful store personnel	Huddleston et al. (2009); Hsu et al. (2010); Prashar (2013); Netopil et al. (2014);
<i>Promotion</i>	Advertisement decoration Advertisement design Promotion frequency Promotion attractiveness	Sirohi et al. (1998); Morschett et al. (2005); Hsu et al. (2010); Prashar (2013)
<i>Store personnel</i>	Nice presentation Knowledgeability Service attitude of staff	Morschett et al. (2005); Huddleston et al. (2009); Theodoridis & Chatzipanagiotou (2009); Chang & Luan (2010)
<i>Reputation</i>	Good reputation Reliability Word-of-mouth	Sirohi et al. (1998); Chang & Luan (2010)

The questions will be measured by Likert scale. The participant is asked to rate the agreement with each statement among the 7 point Likert from “Strongly Disagree” to “Strongly Agree”.

Beside the second part of customer perception and customer preference, the questionnaire is divided into two other parts. In the first part, the rank of the level preference of customers about the store is very important. It indicates which store customer like most which corresponding with number 1 and the least favorable is corresponding with number 3. This rank bases on the original measurable scale. The last part will be delivered at the end with some demographic questions about the gender, age, income, occupation.

With the development of a dynamic city, Ho Chi Minh City attracts both local and foreigner retailers to invest more in convenience store chains. Three different dominant convenience store brands whose all stores are open 24/24h, namely Circle K, Family Mart, and B's Mart in 6 districts of Ho Chi Minh City were selected. Six districts (over 24 districts) in Ho Chi Minh City that have the most stores of three chains located include District 1, 3, 5, 7, and Binh Thanh, Tan Binh District. The data will be collected in stores when customers or visitors experience shopping or already finish shopping like previous research of Thang and Tan (2003). In order to ensure the complete answer, customers that stay and consume products in store will be interviewed.

The study adopts rule of STV ratio which recommends sample should be at least five time the number of variables and subjects-to-variables ratio should be no lower than 5. Thus, the research selects a sample of at least 350 customers. In order towards target customers, quota and judgmental sampling is applied to interview at least 55 people at each district.

After finishing the collection of data, a filter process should follow. Unqualified feedbacks shall be eliminated, such as feedbacks where 10% or more of the questions are left unanswered, or when the answers show vandalism (e.g. picking the same answer for all questions).

Later on, eligible data will be processed through SPSS (Statistical Package for the Social Sciences) for analysis. In order to gain objectives of the paper, some methods as descriptive statistic, the reliable test, validity test, EFA and multiple regression between the variables through SPSS are carried out.

POTENTIAL CONTRIBUTIONS, IMPLICATIONS AND LIMITATIONS

As a conceptual paper, the study empirically investigates and conceptualizes the relationship between store image and consumer preference. Then, it is to measure the impact of each attribute of store image on consumer perception and preference. The research findings can provide managerial suggestions to improve store image with regard to 7-Eleven convenience store chain in Vietnam.

There will be some potential limitations of the research. Firstly, although Circle K, Family Mart, and B's Mart are dominant and well-known chains, they may not represent all the domestic and international convenience store chains in Vietnam. Secondly, this research is only conducted in Ho Chi Minh City; therefore, it cannot be representative for all customers throughout Vietnam. Not but not least, due to the limit of time and geographical constrains, the outcome of study may adversely influence the generalizability of the result.

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APPENDIX

Table 1
Overview of Three Convenience Store Chains

Time entrance	Name	Owned by	Country of Origin	Stores ('till November, 2016)
12/2008	Circle K	Red Circle Company	US	200 HCMC: 151; HN: 47 BinhDuong: 02
2009	Family Mart	Vietnam Family Convenience Stores Company Limited	Japan	111 HCMC: 106; BinhDuong: 03 VungTau: 02
2013	B's Mart	Phú Thái Group	Thailand	146 HCMC: 155

Table 2

Number of Convenience Stores Allocated by Districts of Three Chains in HCMC (Updated on November 15th, 2016)

STT	District	Circle K	Family Mart	B's mart	TOTAL
1.	1	45	29	14	88
2.	Tân Bình	14	6	21	41
3.	Bình Thạnh	11	12	13	36
4.	7	22	5	6	33
5.	3	7	10	7	24
6.	5	5	11	4	20
7.	Tân Phú	7		13	20
8.	10	8	6	5	19
9.	Gò Vấp	5	4	10	19
10.	8	2	2	15	19
11.	6	5	6	6	17
12.	Phú Nhuận	4	4	8	16
13.	4	7	1	6	14
14.	2	2	6	6	14
15.	11	2		10	12
16.	Thủ Đức	2	4	2	8
17.	9	1		5	6
18.	Bình Tân	2		1	3
19.	12			2	2
20.	Bình Chánh			1	1
21.	Củ Chi				0
22.	Hóc Môn				0
23.	Nhà Bè				0
24.	Cần Giờ				
TOTAL		151	106	155	

FACTORS AFFECTING CUSTOMER SATISFACTION AND CUSTOMER LOYALTY THE CASE OF BINH DUONG CERAMIC PRODUCT

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ABSTRACT

Vietnam is one of the biggest ceramics exporters in the world which is well-known for its unique design and shape. In the other hand the domestic market of Vietnam ceramics was dominated by China and other countries. The researcher has developed a research model with 6 hypotheses and both quantitative and qualitative approach was used to interpret to data. The research mainly uses quantitative method to analyze data. As the final result was showed all the hypotheses was supported except Brand Awareness. Customer satisfaction and switching cost show a positive effect on customer loyalty. Price, Service quality, Product quality showed a positive effect on customer satisfaction. As a consequence Price, Service Quality, Product Quality had an indirect impact on customer loyalty.

INTRODUCTION

Vietnam has amazed the world with its variety of handcraft as well as the skillfulness of the labor. Among the entire handcraft product, Vietnamese ceramic products is well-Known with their variety of shape and size as well as the good quality and design. Vietnam ceramics has been developed over 1000 years. It is a combination of Vietnam tradition, culture as well as the Vietnamese spirit throughout the years. Ceramics product can be found anywhere in Vietnam from daily life product to beautiful design product use for decorating house. Throughout the china-domination Vietnam ceramics product has a huge influence from china design, but thought out the years Vietnamese have differentiated their product and create our own Vietnamese ceramics style. Furthermore, we also have obtained other countries design to develop our style and design. Vietnamese pottery and ceramics were an essential part of the trade between Vietnam and its neighbors during feudalistic times, throughout many dynasties up till now there still a lot of style and ways to make ceramics product which can be known as: Hoi an, Bat Trang, Cat Tien. Each of the style is the outcome of thousands of years of developing and obtains different culture. Another style of ceramics is modern art which was developed within 20 years, modern ceramics products are mostly produced for exporting. In 2015 90% of modern ceramics products were exported to several countries such as Taiwan, japan, America.

Opportunity and advantages

Vietnam has many sources of high-quality minerals ideal as materials for producing glaze and colors for ceramic and porcelain products. There are 123 kaolin mines with 640 million tons of reserves, 184 red-clay mines with 1.13 billion tons of reserves, 39 white-clay mines with 53 million tons of reserves, 13 quartz-clay and 20 quartz sand mines with total reserves of 2.13 billion tons, and 25 dolomite mines with 800 million tons of reserves. Vietnam has a strong and large labor force as well as cheaper labor price. Excellent handcraft skills, long traditional and history in making ceramics product as well as wide range of materials giving it a basis of product decorativeness and differentiation. Vietnamese enterprises are gradually paying attention to in-depth development by improving enterprises' competitiveness including product quality, research and development and product diversification. Striving to provide customers with superior quality is more often than not Vietnamese ceramic and porcelain exporters' commendable mission. Vietnamese enterprises have adopted many new advances in production to replace heavy manual labor. To illustrate, machines automatically accomplish kneading and mixing soil technology, and there are gas-fired kilns and modern transportation, etc. With these advances, more high-quality products are produced, thereby contributing to the nation's economic efficiency, expansion of export markets, etc., while the industry still keeps its traditional image;

Ceramics market share.

In 2012, ceramics ranked first of the handicrafts in terms of export revenue, reaching US\$431 million, up 12% year-on-year. Not only in 2012 was ceramics the highlight of Vietnam's handicraft exports, it has a long tradition as an export and powerhouse of this sector, accounting for 40% of Vietnam's total handicraft export revenue. Ceramic and porcelain remains Vietnam's key handicraft export in 2013.

In 2012, Japan remained the largest buyer of Vietnamese handicraft exports, consuming 16%, worth about US\$65 million. Taiwan followed at 30% (US\$51 million). Then comes some other markets such as the US, Malaysia, Germany, Thailand and South Korea. According to statistics of latter 2012, there were 286 home ceramics manufacturers across the country, earning VND1.68 trillion/year and taking a 30% market share. There are many different manufacturing sectors such as: industrial manufacturers (including large enterprises that account for a large market share in the domestic sector such as Minh Long 1, Hai Duong Ceramic and ChuanKuo Viet Nam). Each of these manufacturers has one large-scale manufacturing plant with average production of 1-2 million products. For example, as for ChuanKuo JSC, if the selling price is VND 9,000 a product, plus an estimated volume of 2 million products a month, then monthly average revenue will be VND 18 billion. The company's total sales in one year can reach VND 216 billion, depending on varied conditions (production tools, domestically consumed volume and export) and occupies 3.9 percent of the whole country's market share. Minh Long 1 Company, given its average production of approximately 1 million products/month and average selling price of VND 15,000/product, can earn monthly and annual sales of VND 15 billion and VND 180 billion, respectively. Thus, Minh Long 1's market share in terms of home ceramics could expect to be 3.2%. Similarly, Hai Duong Ceramic - a famed brand in the north for over 50 years - also has average output of about 1 million products/month and selling price of VND 7,000/unit. Thus, it gains VND 7 billion/month and VND 84 billion/year, to hold a 1.5 % market share. One of the main objectives of the research is to understand about customer satisfaction and its role on affecting customer loyalty. On the ceramics extend customer satisfaction is very important since its can directly affecting on re-purchase intention of the customer. Furthermore product quality and perceived value and price are the potential factors that influence the customer satisfaction of ceramic product. In addition when customer thinks about a ceramic product they will think about the product quality at first as well as trying to figure it out what is the best for them in their perceived value.

Binh Duong ceramics or we can call it the Binh Duong ceramics making village, its origins begin since late 19th century to early 20th century. Talking about Binh Duong ceramics product, it is not just an economics ceramics making village, it is more like the remaining of a long history, traditional handicraft that still exist now. There are no document about the exact origins of Binh Duong ceramics village but there are some evidence showed that it was found around 19th century next to a porcelain mineral. Binh Duong ceramics village or Binh Duong ceramics were becoming a big traditional handicraft town, at their peak development there was more than 200 household ceramics maker around Binh Duong. Still now there was 3 main ceramics maker area: TânPhướcKhánh, Thuận An and ChánhNghĩa. But the real situation is now depressing. Since the ceramics industry in Vietnam was dominant by China and Thailand, Binh Duong ceramics village facing a huge decline as well as in number of ceramics maker as well as the market share of ceramics. Now the definition of Binh Duong ceramics village can be simplified to streets of ceramics seller or ceramics store, most of the ceramics suppliers are for exporting and now there are just a few household ceramics maker still survive.

However besides all the advantages and achievement of ceramics both in international and national, Vietnam still facing a big threat from other countries on ceramics market shares. In 2012, the total revenue of domestic ceramics of Vietnam is 5.600 billion VND which held 30% of total market share, Vietnam ceramics are still dominated by China and other countries. So this arise a question why Vietnamese ceramics product is lack of competitive advantages compare to others products? One of the reason is that Vietnam ceramics makers are mostly using old technologies as well as Vietnam ceramics manufacturer are making product for what they think that the customer will need, there are

no research or study to understand/analyze customer satisfaction as well as what they want on a ceramics product. In any event, it is the customers' perception of product quality that is crucial to company success, not the company's perception (e.g. Shetty, 1987; Snöj et al., 2004). Therefore, it is fatal to study more about customer satisfaction to gain back our domestic ceramics market shares, to obtain competitive advantages toward other countries. As Vietnam is a developing country and now facing a new era of development which we can see from the big development in apartment and other facilities within Saigon city in specific and whole Vietnam in general. More and more huge buildings with thousands of apartment have been built so Vietnam now facing a huge shifting from house to apartment for citizens. As a result the uprising demand for interior decoration uprising following up with the demand for ceramic product. Moreover Vietnam have a long experienced on ceramic pottery production more than a thousand of years so we need to know more about ceramic product as it one of Vietnam biggest traditional handicraft product. it is our mission and duty to study more about one of our country traditional symbol.

Objectives

The goal of the research is to how customers make buying decision on ceramics product or more specifically is to examine what are the factors that influence on their decision. It serves 3 main objectives as follow:

To state out the relationship among customer satisfaction, customer loyalty, product quality, service quality, brand awareness and prices in the ceramics product extent.

To measure the relationship between customer satisfaction and customer loyalty.

To bring out the solutions and recommendations for the Binh Duong ceramics maker and seller and domestic manufacturers to gain back competitive advantages on ceramics market.

In order to understand those objectives more clearly, the research develop 2 questions as follow:

What are the factors that influence the customer satisfaction and customer loyalty in the ceramics product extent?

What are the solutions and recommendation for Binh Duong ceramics to gain customer satisfaction and customer loyalty as well to gain back their market?

LITERATURE REVIEW

Customer satisfaction

Customer satisfaction has been treated as one of the most important factors for all company and firms that provide products or services. It is all company's goal to achieve customer satisfaction and through that the company will gain competitive advantages to stay survival. In addition Marketers consider satisfying customers as a key element of business activities especially in competitive market (Anderson, 2005).

About the definition of customer satisfaction there are a lot of idea as well as theories. In 1997 Oliver had stated that customer satisfaction is the consumer's fulfillment response. It is a judgment that a production or service feature, or the product or service itself, provide a pleasurable level of consumption related to fulfillment. There are 2 level of fulfillment, under or over-fulfillment. While Oliver stated that customer satisfaction is about fulfillment, in contrast, Kotler (2000) defined customer satisfaction as: "A person's feelings of pleasure or disappointment resulting from comparing a product's perceived performance in relation to his/ her expectations". According to that, some researcher stated that: there are 3 stages of satisfaction, customer feel satisfied when the product performance better than expectation of customer, and they fell disappointed when product performance lower than expectation, they feel neutral when the performance meet the expectation.

The important of customer satisfaction

Customer satisfaction can be a fatal factor that affects any source of business and company performance .According to LaBarbera and Mazursky (1983), “satisfaction influences repurchase intentions whereas dissatisfaction has been seen as a primary reason for customer defection or discontinuation of purchase”. When achieved customer satisfaction it can lead to a lot of advantages. According to JochenWirtz (2003) customer satisfaction may lead to customer: customer are more likely to come back to repurchase product or services , and generated customer loyalty as well as they will introduce the product to other people surround them, as a consequence this will lead to an increase on long term profitability of the company.

In the other hand, Hoyer and MacInnis (2001) stated that dissatisfied consumers can decide to:

- Discontinue purchasing the good or service,
- Complain to the company or to a third party and perhaps return the item
- Engage in negative word-of-mouth communication

Based on the above theory above the research can note that customer satisfaction is the goal of any firm or company. It directly boosts up company’s revenue and maintain customer. Customer satisfaction indirectly attracts more customers through word of mouth and increase the re-purchase intention of customer. On the ceramics extent, manufacturer in Vietnam are producing ceramics as what they think the market need, it is not what customer want. As a result it is important for Vietnam manufacturer to study more about customer satisfaction as well as loyalty.

Customer satisfaction measurements

There have been thousands of empirical studies about customer satisfaction. As a result, there has been a lot of approach to customer satisfaction as well as many ways to measure customer satisfaction. In 2001, Bel and Chiao have stated that product quality, service quality and price are fatal factors that influence the customer satisfaction. In the other hand according to Zeithaml and Bitner (2000) proved that customer satisfaction is influenced not only by product and service quality and price but also by situation factors and personal factors. According to that theory Zeithaml and Bitner (2000) have developed a customer satisfaction model:

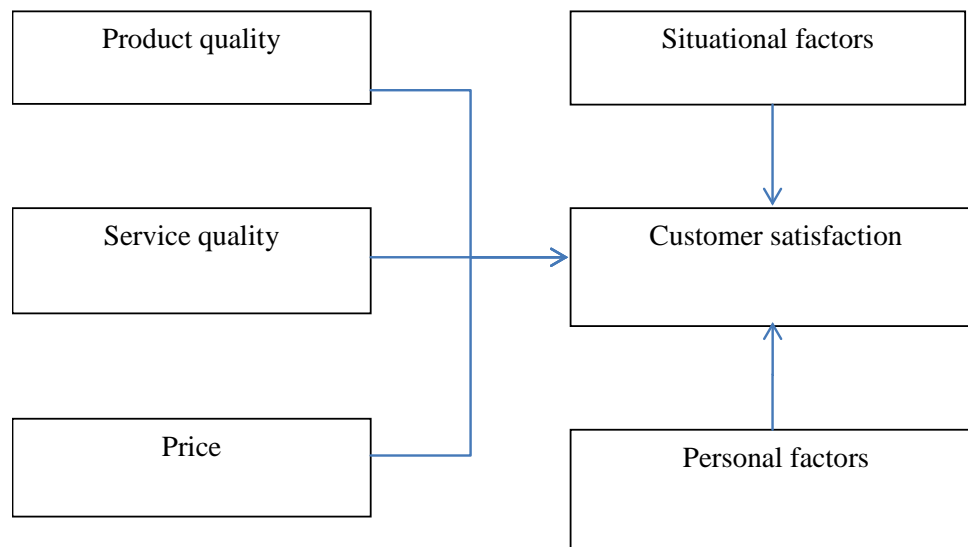


Figure 1. Model to measure customer satisfaction.

Customer loyalty

Customer loyalty can be viewed as the tendency to come back to a certain brand name or certain type of product for a period of time or permanent. Or in some extent customer loyalty can be classified as the commitment of the customer toward the product or services Marketer and business man from all

over the world are trying to achieve customer loyalty for their firm and company. It is critical to understand about customer loyalty since it can directly maintain the customer for the company as well as directly effect on customer buying decision. In addition, According to Shun Yin Lam (2004), customer loyalty is evaluated by two dimensions: recommend and patronage. Customer loyalty (recommend) can be understand as follow: after customers satisfy about the service of this firm, they will recommend or will tell other people about this service and the other people can start using this service through their recommend in the other hand Customer loyalty (patronage) state that after customers satisfy with this service, they may continue using this service or using more services of this firm.

According to Jacoby and Kyner (1973) "loyalty is the behavioral reaction based on prejudice as the function of psychological processes by the decision maker in the existence of one or more alternative in time". It has been known that it is really difficult to build customer loyalty. Cording to Oliver (1999) and Dhevika&Subramani (2005) "So in order to make a customer become and remain loyal, the customer by themselves have to believe that the products or services the organization offers to them give them same certain value that indicates the product was the best alternative for him or her. Customer loyalty will go off if the value transfer to them is not the best alternative anymore or they find some better alternative, the customer now switch to other suppliers apparently.

The important of customer loyalty

It is important for manufacturers to build up customer loyalty, since loyalty can directly remain the customer (patronage loyalty) or can attract much more customer (recommended loyalty). Throughout the year firm and manufacturers tried to obtain customer loyalty to gain their own competitive advantages to survive in the rapid changing global market. As a result, Customer loyalty is considered by many service providers as a significant source of competitive advantages (Woodruff, 1997). In addition, according to Reichheld (2001) loyal customer tend to buy more and buy frequently and long term customer are less price sensitive since they are satisfied with the value they are received by the products they purchased form the business so they are willing to pay more for the product. As a result manufacturer and firm can maintain higher prices over other competitors firm and manufacturers or at least offer the customer more services and product with a higher price.

Switching cost

According to Jones et al. (2000) switching cost is one the most important factors that affect customer perception, switching cost consist of time, cost and effort of the customer when they attempt to change to another firm. In addition Switching cost have an direct affect to customer loyalty, Andreason (1982). The level of difference of competitive and switching cost between makes the customer have more alternatives and choice to choose from to satisfies their need. To measure the relationship between switching cost and customer loyalty Heide and Weiss (1998) have use 3 values: time, effort of customer and money when moving to another supplier. Broadly switching cost is the difficulties for customer to change to another alternatives product or services, if the cost for them to change to another supplier was comparatively lower than the one they are using they are more likely stop using that product and change to the other one. In the other switching cost can be counted as an perceptual factors of customer, it is how customer think about the specific product or services, if they think it better than the rest they are not likely to change, if they think the product is not giving them the value that they think it should be they will change.

Service quality

There are a lot of theory and discussion about service quality but one the most famous one was according to Parasuraman, Zeithaml, & Berry (1985) in parasuraman opinion the definition of service quality as the customer's judgment of overall excellence of the service or the difference between customer's expectation and the actual service performed or perceived. In general, service quality is simply what customer wants or their expectations towards the service or product. Most researchers stated that there is a positive relationship between service quality and customer satisfaction, in general the higher service quality the customer received the higher satisfied they are. In addition Bitner (1990)

mentioned that good service quality leads to satisfaction and consumer satisfaction increased the evaluation of service quality again.

The first thing customer think about a product and services is the services, if the service of that firm make them happy and satisfied they are more likely to purchase the product. Furthermore, services quality makes the customer much easier to purchase a product so it may affect the re-purchase intention of the customer as well.

Product quality

In general a product can be defined as a thing that can be offered to a market to satisfy a want or need". Product is something to offer to the market to get attention, buying, using or consume to fulfill the desires or needs (Philip Kotler).

Product quality

As we know that the world today is changing quickly, this arise a concern to differentiate one's products with others. To survive in today business it is not just about the company it is about the product and what customer wants from the product, to analyze and understand these objectives researcher comes up with the term: Product Quality.

In general product quality can be defined as: "Product Quality is the characteristics of a product or service that bear on its ability to satisfy stated or implied customer needs". Kotler and Armstrong (2012, p. 254). Or According to Bowo, Hoyyi, and Mukid (2013), "Product quality is a relative measure of a good or service that can give you an idea of how far the level of excellence of a product is able to meet customer desires). In the other hand according to Monroe and Krishnan (1985), perceived product quality was defined as the perceived ability of a product to provide satisfaction relative to the available alternatives. "Or for more specific perceived product quality can be defined as the customer's perception of the over quality or superiority of a product with respect to its intended purpose, relative to alternatives" (Aaker, 1991, p.87). Or according to Mowen and Minor (2002, p. 90) states that "the quality of the products the customer is defined as a comprehensive evaluation of the goodness of the performance of goods or services". Based on above opinion product quality can defined as the characteristics of product that depend on its availability and ability to demonstrate its function that meets customer needs and show the customer the superiority to other alternatives products.

Prices

Price always considered one of the most important factor when customer decide to buy something, when they buy something for lower price but it meet their expectation they are more likely to satisfied. From the customer perspective, price is the amount which needs to be paid to obtain the product (Hawkins et al., 1983). Price has been considered a significant component in explaining consumer satisfaction (Chen et al., 1994). From the customer perspective, price is the amount which needs to be paid to obtain the product (Hawkins et al., 1983). In addition, Varki and Colgate (2001) also pointed out that price was the part that required payment or sacrifice to obtain the products or services. And at the end of the process, customers would have price awareness of product, the purchase behavior of customers depended on pricing factors. A further study, Anderson et al. (1994) emphasized price as an important factor that directly impacted on consumer satisfaction, because whenever consumers evaluate the value of an acquire service, they usually think of the price. In General, when the customer purchase a product or services, the first thing they think about is the price, whether it is cheap enough or the price is fit with the value of the product from that the customer will be satisfied or not. In the other hand, price have been known one of the most important factors that generate the comparative advantages among firm and company, it means that when a specific product have lower price and generate the same or almost the same value or quality to customer, customers are more likely to purchase the cheaper one. As a consequence to gain back comparative advantages, Price is one fatal factors that in concern of all firm and businessman.

Brand Awareness

In 1996 Aaker defined brand awareness as the degree to which a brand is recognized by potential customers, and correctly associated with a specific product in different situations. In general a brand can be defined as name, some feature product or even the outlet of the store or in some extent, it could a symbol. The purpose of brand is to create an image that can attach to potential customer mind, it could be funny, or thoughtful but inclusion it has to make customer think about the business itself and through that they will more likely to use the product or more likely to satisfied with the product which was the feature of the business. In addition in 2001, based on the former theory Aaker stated that brand awareness can be referred as the degree of consumer’s familiarity with a brand. Broadly brand awareness can be viewed as the knowledge of customer about the firm or organization offer a specific product or services attached with some brand value that the customer interested on. It was stated that brand awareness is a vital element of brand equity in which when the brand is well known it become important to the company since customers may be influenced by the brand Keller (2003).

Relationship between customer satisfaction and brand awareness

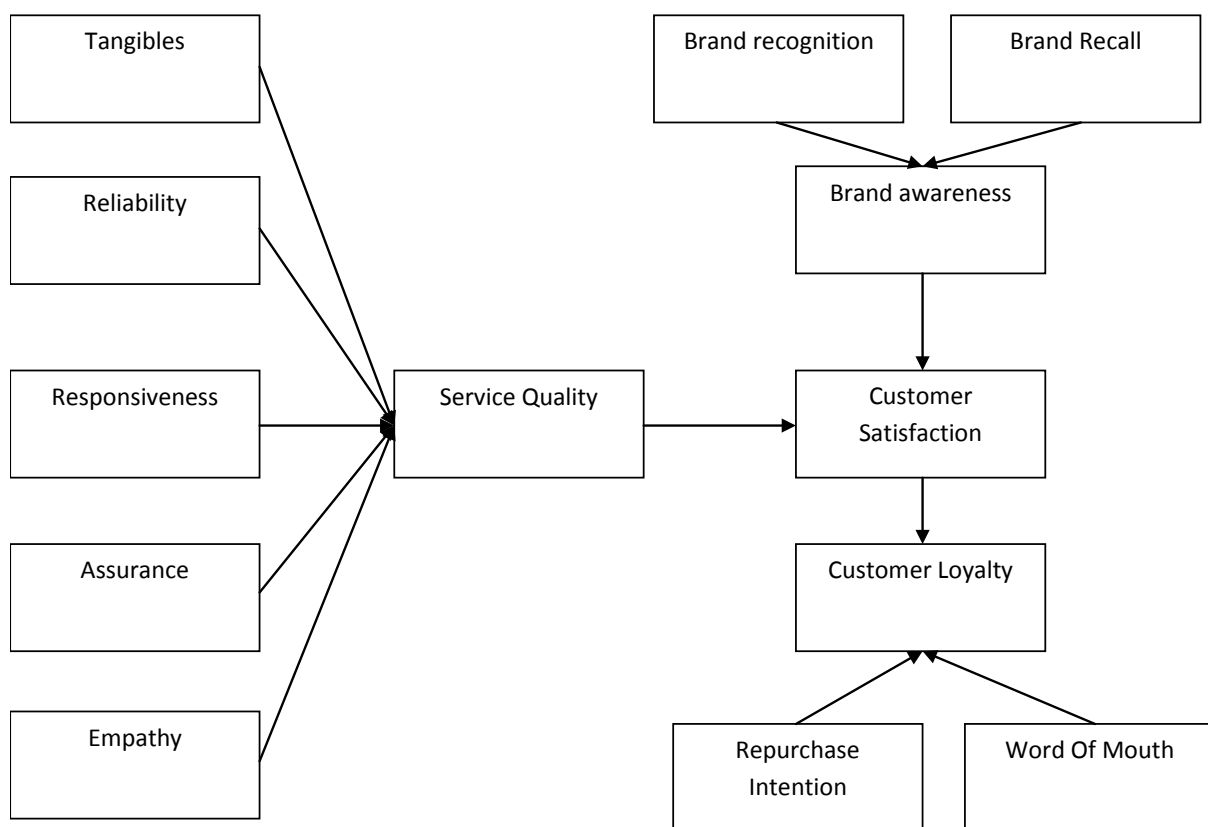


Figure 2. The conceptual research model of customer loyalty of Foil Dino Manudo

According to the figure above from Foi Dino Manudo (2007), it showed that brand awareness share some value that effect on customer satisfaction. And the dimension of the Brand awareness is brand recognition and brand recall.

Propose research model and hypothesis

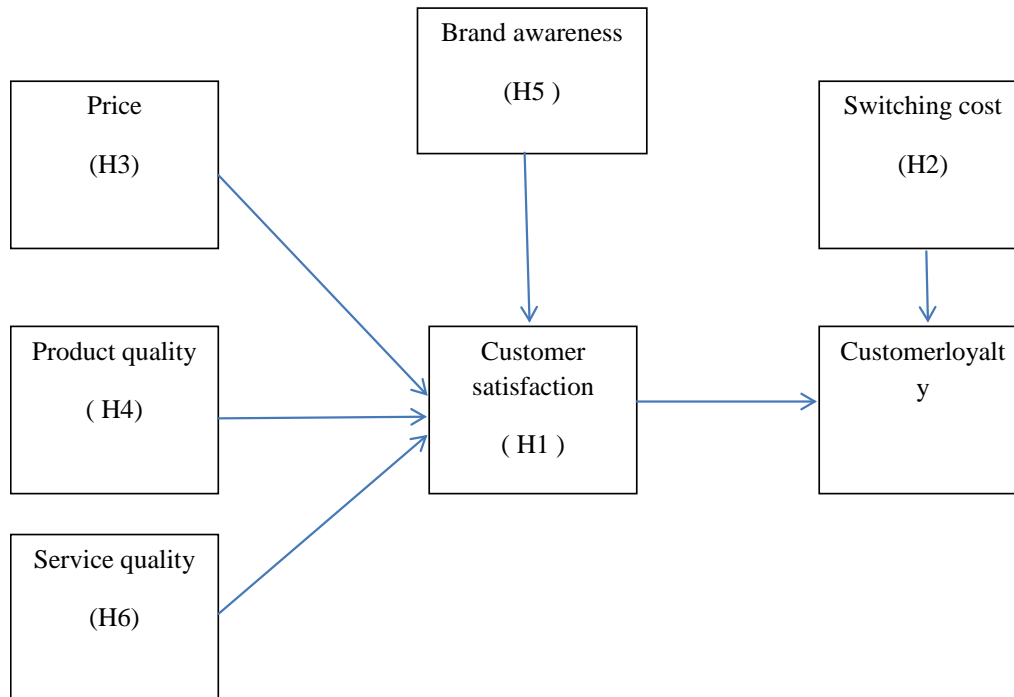


Figure 3. Proposal research model.

Hypothesis:

- H1:** Customer satisfaction has a positive influence on customer loyalty
- H2:** Switching cost has a positive influence on customer loyalty
- H3:** Price has a positive influence on customer satisfaction
- H4:** Product quality has a positive influence on customer satisfaction
- H5:** Service quality has a positive influence on customer satisfaction
- H6:** Brand awareness has a positive influence on customer satisfaction

METHODOLOGY

Data collection

The aim of the research is to gain information and understand the customer satisfaction and customer loyalty toward Binh Duong ceramics. In order to make the data more various and the information more reliable both quantitative and qualitative approach will be used, but mainly using the quantitative approach. The data collection will use both primary and secondary data. The primary data are come from the hand out questionnaire to customers as well as in-depth interview with customers and ceramics store owner in Binh Duong. Secondary included article of related research, related theory, literature review, online sources. Online survey and hand out questionnaire was used to collect data. In the online survey the first question is “have you ever purchased a ceramics product before” to make the data more valid and reliable .However the mainly method to collect data was hand out questionnaire since ceramics product is one the special product and not so many people actually understand it, so it is hard to using online survey for this case (the data may not consistent and reliable). To conduct the questionnaire survey and in-depth interview, researcher had to go to Binh Duong for 30 days to collect data from a lot of ceramics store.

Qualitative approach

In this research qualitative approach will be used mostly for detail data and information. Qualitative methodology is a method in which encourage the participants to express their opinion, their idea, attitude toward a specific product or services. In the in-depth interview was conducted with 7 store

owner and 8 loyalty customer of some certain ceramics store in Binh Duong. All the answer was noted to gather the information to support the final result. The question of in-depth interview was focused on some following aspect:

- The average price that the customer pays for a ceramics product or the price they are willing to pay for a ceramics product.
- What are the factors that attract customer when they using Binh Duong ceramics product?
- What factors make customer satisfied or feeling happy? And why?
- How to improve Binh Duong ceramics product to gain back the domestic market?
- Why the customer chose Binh Duong ceramics instead of others?

Quantitative approach

Sampling

The population of this study is the customer of Binh Duong ceramics product. The target sample size is 300 to make the data more reliable. There are only 100 online survey was sent, 250 questionnaire was sent in Bind Duong in order to achieve the target sample of 300 participants.

Question design

The research questionnaire will be designed based on the items of factors affecting directly or indirectly on dependent variable of Customer satisfaction as the mention of Literature Review at early part. However, 5-33 point likert scale may be used in almost questions where 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree and 5 =strongly agree.

The next part of questionnaire includes questions about the demographic information.

The questionnaire will be designed as follow:

DATA ANALYSIS

Sample description

Final sample: There were 300 customers of Binh Duong ceramics participate in answering the questionnaire. After testing these questionnaires, the result showed that the missing rate was 0; all 300 questionnaires were valid and usable. The result of this chapter was conducted on the final sample 300 respondents.

Characteristics of the sample

Table 1

Demographics of the Sample

	Description	Frequency	Percentage
Gender	Male	190	63.3
	Female	110	36.7
Income	Less than 4 millions	37	12.3
	4-7 millions	93	31
	7- 10 millions	114	38
	More than 10 millions	56	18.7
Frequency purchase ceramics product per year	1 time	164	54.7
	2-3 times	90	30
	4-5 times	29	9.7
	More than 5 times	17	5.6

Gender

The sample distribution rate between male and female have a big gap; apparently more men purchase a ceramics product. Among 300 samples, there were 190 male and 110 female, the number of men had the experience on purchase a ceramics product was quiet high which is almost double the number of women that had purchase a ceramics product.

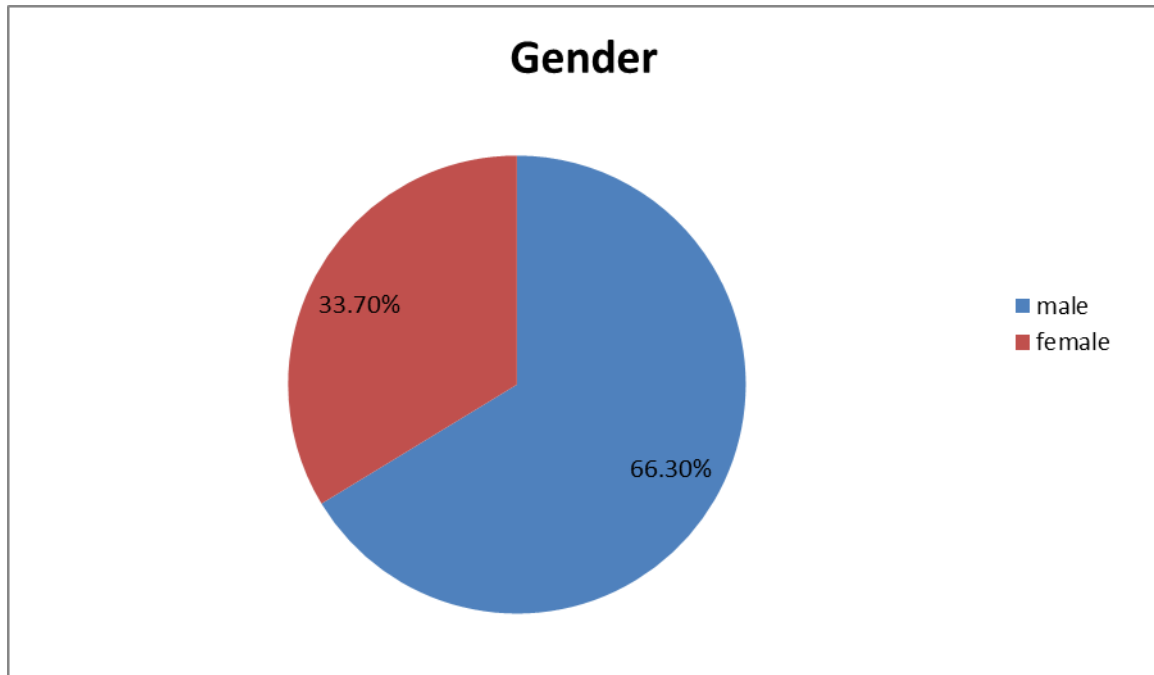


Figure 4. The demographic of the respondent

Income

In the whole 300 samples, the highest percentage belonged to 7- 10 million which held 38 percent then following up with 4- 7 million (31%), then more than 10 million (18.7 %) and finally less than 4 million (12.3 %) . it can be indicated that about 69% of people had an experience on purchasing ceramics product have salary from 4-10 million.

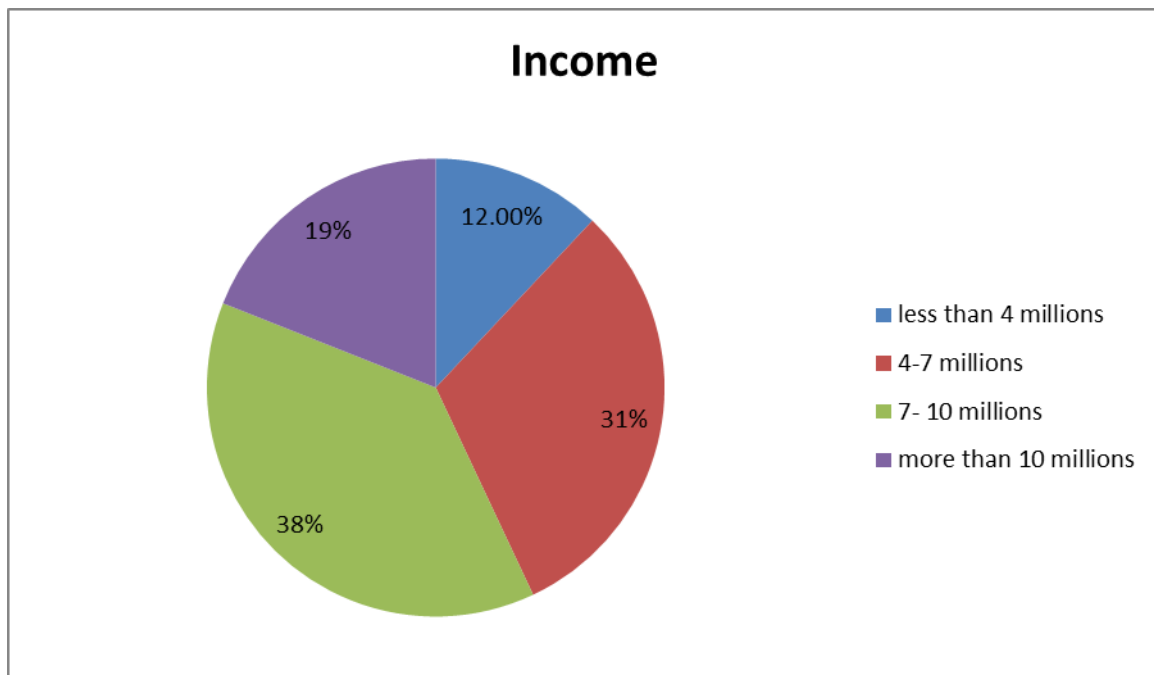


Figure 5. Respondent's income

Frequency per year

In general, most of the people just buy ceramics once a year which held 54.7 % of the whole 300 samples following up with 2- 3 times per year (30 %). Whereas not so many people purchase ceramics more than 4 times a year which held about (15.3 %). Among the 300 samples people mainly purchase ceramics about 1-3 times a year.

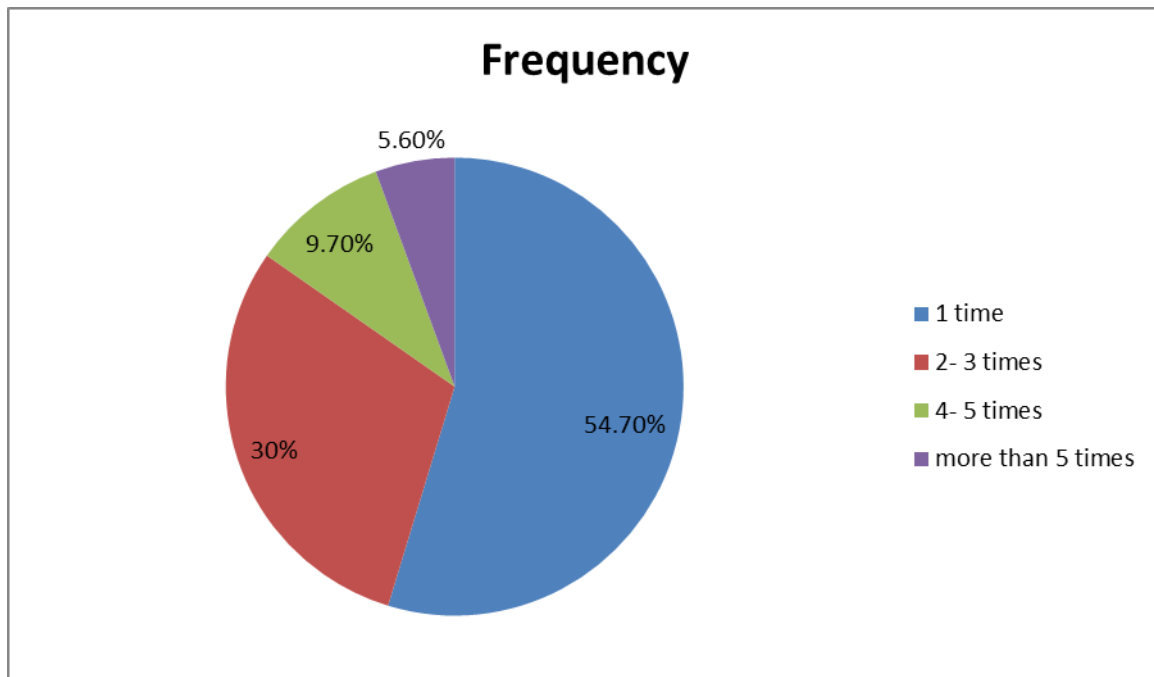


Figure 6. Frequency of buying ceramics product per year of respondent

Reliability analysis

As the part of data analysis introduced in chapter 3, for accessing the reliability of the research and the measurement scale, cronbach’s alpha will be used in this study. According to Nunnaly and Bernstein (1994), cronbach’s alpha should be greater than 0.6 to achieve a reliable measurement, and the higher the cronbach’s alpha indicates that the result is much more reliable. Moreover, corrected item total correlation value must be greater than 0.3. All variables are qualified for the criteria.

Exploratory Factors Analysis

Table 2

KMO and Bartlett's Test of PRICE, PROQUA, BRAND, SERQUA

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.587
	Approx. Chi-Square	1810.686
Bartlett's Test of Sphericity	Df	91
	Sig.	.000

Table 3
Total Variance Explained of PRICE, PROQUA, BRAND, SERQUA

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.249	23.210	23.210	3.249	23.210	23.210	3.244	23.170	23.170
2	2.348	16.770	39.980	2.348	16.770	39.980	2.152	15.375	38.545
3	1.900	13.573	53.553	1.900	13.573	53.553	2.098	14.985	53.530
4	1.570	11.217	64.770	1.570	11.217	64.770	1.574	11.240	64.770
5	.801	5.723	70.493						
6	.753	5.381	75.874						
7	.680	4.859	80.733						
8	.618	4.414	85.147						
9	.535	3.822	88.969						
10	.442	3.155	92.124						
11	.421	3.007	95.131						
12	.387	2.763	97.894						
13	.258	1.845	99.740						
14	.036	.260	100.000						

Extraction Method: Principal Component Analysis.

After testing reliability there are 14 items were put into the component matrix they are gathered as 4 component as the table below:

Table 4
Component Matrix of PRICE, PROQUA, BRAND, SERQUA

	Component			
	1	2	3	4
Ceramics product have unique patterns and design	.941			
There has a large variety of ceramics product	.893			
Ceramic product have good endurance	.893			
Ceramics product are all handmade	.856			
Binh Duong ceramics is one of the brand i think of first when i want to purchase a ceramics product		.596	.573	
Featured product of Binh Duong ceramics are bat Trang ceramics and household making ceramics		.581	.380	
I know where to find binhduong ceramics product		.567		
Seller has a wide knowledge on ceramics field		-.555	.461	
Packaging is fast and safely		-.502	.477	
Binh Duong ceramics is one of the famous ceramics suppliers in Vietnam		.541	.563	
All the product are showed nicely and attractively		-.475	.543	
Service staff are friendly and willing to help		-.494	.543	
Price of ceramics products are stable				.874
Price of ceramics products are affordable				.874

Extraction method: principal component analysis.

Four components extracted.

As a result from table, most of the variables were gathered in the three- first component only PRICE2 was gathered in the fourth component the last component did not really have the chance to participate. In order to make it clearer the component matrix was rotated .the result was showed in table below.

Table 5
 Rotated Component Matrix of PRICE, PROQUA, BRAND, SERQUA

	Component			
	1	2	3	4
Ceramics product have unique patterns and design	.942			
There has a large variety of ceramics product	.897			
Ceramics product have good endurance	.891			
Ceramics product are all handmade	.858			
Binh Duong ceramics is one of the brand I think of first when i want to purchase a ceramics product		.829		
Binh Duong ceramics is one of the famous ceramics suppliers in Vietnam		.777		
Featured product of Binh Duong ceramics are bat Trang ceramics and household making ceramics		.687		
I know where to find binhduong ceramics product		.608		
Service staff are friendly and willing to help			.740	
All the product are showed nicely and attractively			.721	
Seller has a wide knowledge on ceramics field			.714	
Packaging is fast and safely			.688	
Price of ceramics products are stable				.877
Price of ceramics products are affordable				.875

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 4 iterations.

After rotating 14 items now were rearranged into four components. In the final result there was no item removed.

Component 1: included four items

- QUA1: ceramics product have unique patterns and design
- QUA2: there has a large variety of ceramics product
- QUA3: ceramics product have good endurance
- QUA4: ceramics product are all handmade

Therefore, component 1 was named as Product quality

Component 2: included four items

- BRAND1: Binh Duong ceramics is one of the brand i think of first when i want to purchase a ceramics product
- BRAND2: Binh Duong ceramics is one of the famous ceramics suppliers in Vietnam
- BRAND3: featured product of Binh Duong ceramics are bat Trang ceramics and household making ceramics
- BRAND4: I know where to find binhduong ceramics product

Therefore, component 2 was named as Brand Awareness

Component 3: included four items

- SERQUA1: service staff are friendly and willing to help
- SERQUA2: all the product are showed nicely and attractively
- SERQUA3: seller has a wide knowledge on ceramics field
- SERQUA4: packaging is fast and safely

Therefore, component 3 was named as Service quality

Component 4: included two items

- PRICE1: price of ceramics products are stable
- PRICE2: price of ceramics products are affordable

Therefore, component 4 was named as Price

Exploratory Factors Analysis of two variables:
(Customer satisfaction and switching cost)

Table 6
KMO and Bartlett's Test of CUS and SWI

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.764
Bartlett's Test of Sphericity	Approx. Chi-Square	597.473
	Df	28
	Sig.	.000

According to the table the Kaiser-Meyer-Olkin (KMO) was $0.764 > 0.5$ and the Barlett's Test of Sphericity have the sig =0.00, which smaller than 0.05

More over from the table below there were two components were extracted, the total variance extracted was 54.917% ($> 50\%$), so the two components could explain 54.917% of data variability.

Table 7
Total Variance Explained of CUS and SWI

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.171	39.639	39.639	3.171	39.639	39.639	2.207	27.589	27.589
2	1.222	15.278	54.917	1.222	15.278	54.917	2.186	27.329	54.917
3	.912	11.404	66.321						
4	.767	9.585	75.906						
5	.629	7.863	83.769						
6	.539	6.733	90.502						
7	.395	4.932	95.434						
8	.365	4.566	100.000						

Extraction Method: Principal Component Analysis.

After testing reliability there were 8 items remain were gathered in component matrix, they were gathered into 2 components as table below.

Table 8
Component Matrix of CUS and SWI

	Component	
	1	2
In general it is complicated and hard to find another ceramics supplier has the same quality and low price like in Binh Duong	.700	.351
I have to pay more cost to switch to another ceramic supplier	.667	
I was satisfied with the brand of product	.642	-.543
I was satisfied with the price of product	.632	-.508
I was satisfied with the service of product	.619	
I was satisfied with the quality of product	.604	
It is a waste of time and effort to change to another ceramics supplier	.598	.432
It is hard to find another ceramics supplier offer the ceramics product that i want and like.	.565	.452

Extraction Method: Principal Component Analysis.

Two components extracted.

Then the component matrix were rotated the results were showed in table below

Table 9
Rotated Component Matrix CUS and SWI

	Component	
	1	2
In general it is complicated and hard to find another ceramics supplier has the same quality and low price like in Binh Duong	.745	
It is a waste of time and effort to change to another ceramics supplier	.729	
It is hard to find another ceramics supplier offer the ceramics product that i want and like.	.720	
I have to pay more cost to switch to another ceramic supplier	.653	
I was satisfied with the brand of product		.838
I was satisfied with the price of product		.806
I was satisfied with the service of product		.597
I was satisfied with the quality of product		.565

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 3 iterations.

After rotating 8 items now were rearranged into two components. In the final result there was no item removed.

Component 1: included 4 items

- SWITCH1: in general it is complicated and hard to find another ceramics supplier has the same quality and low price like in Binh Duong
- SWITCH2: it is a waste of time and effort to change to another ceramics supplier
- SWITCH3: it is hard to find another ceramics supplier offer the ceramics product that i want and like.
- SWITCH4: i have to pay more cost to switch to another ceramic supplier

All items above referred to the four dimension of switching cost

Therefore, component 1 was named as SWITCHING COST

Component 2: included 4 items

- CUS1: I satisfied with the brand awareness of Binh Duong Ceramics Product.
- CUS2: I satisfied with the perceived price of Binh Duong Ceramics Product
- CUS3: I satisfied with the service quality of Binh Duong Ceramics Product
- CUS4: I satisfied with the brand product quality of Binh Duong Ceramics Product

All items above referred to the four dimension of customer satisfaction

Therefore, component 2 was named as customer satisfaction.

Exploratory Factors Analysis of dependent variables.

(Customer loyalty)

Table 10

KMO and Bartlett's Test of LOY

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.672
Bartlett's Test of Sphericity	Approx. Chi-Square	160.555
	Df	3
	Sig.	.000

Table 11

Total Variance Explained of LOY

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.886	62.861	62.861	1.886	62.861	62.861
2	.595	19.824	82.685			
3	.519	17.315	100.000			

Extraction Method: Principal Component Analysis.

Table 12

Component Matrix of LOY

	Component
	1
I prefer Binh Duong ceramics product to others	.808
I will support and continue to purchase Binhduong ceramics	.800
I will invited my friend/ family to buy Binh Duong ceramics products	.770

Extraction Method: Principal Component Analysis.

1 component extracted.

According to the table the Kaiser-Meyer-Olkin (KMO) was $0.672 > 0.5$ and the Barlett's Test of Sphericity have the sig =0.00, which smaller than 0.05

Moreover from the table below there were two components were extracted, the total variance extracted was 62.861% (> 50%), so the two components could explain 62.861% of data variability. All three items of Customer loyalty were high loading and all gathered into same component.

Correlation testing

In this research, correlation Analysis will be applied to test the linear relationship between the dependent variable and independent variables. Two-tailed test checked whether relationship of those variables was positive or negative.

The relationship between customer satisfaction, switching cost and customer loyalty.

Table 13

Correlations of CUS, SWI and LOY

		CusM	SwM	loyM
CusM	Pearson Correlation	1	.290**	.504**
	Sig. (2-tailed)		.000	.000
	N	300	300	300
SwM	Pearson Correlation	.290**	1	.480**
	Sig. (2-tailed)	.000		.000
	N	300	300	300
LoyM	Pearson Correlation	.504**	.480**	1
	Sig. (2-tailed)	.000	.000	
	N	300	300	300

Note. ** Correlation is significant at the 0.01 level (2-tailed).

As the result from table above, all value of correlation coefficient was positive and all significance level were 0. It indicates that if customer loyalty increase value, the value of customer satisfaction and switching cost will increase as well. In conclusion, there was a positive relation among those variables. so next steps, Regression Analysis would be done.

Relationship among Price, Product Quality, Brand Awareness, Service Quality and customer satisfaction

Table 14

Correlations of PROQUA, PRICE, BRAND, SERQUA, CUS

		PrM	QuaM	BrandM	SerM	CusM
PrM	Pearson Correlation	1	.036	.003	-.015	.223**
	Sig. (2-tailed)		.536	.965	.797	.000
	N	300	300	300	300	300
QuaM	Pearson Correlation	.036	1	-.005	-.005	.247**
	Sig. (2-tailed)	.536		.933	.925	.000
	N	300	300	300	300	300
BrandM	Pearson Correlation	.003	-.005	1	-.117*	.054
	Sig. (2-tailed)	.965	.933		.043	.355
	N	300	300	300	300	300
SerM	Pearson Correlation	-.015	-.005	-.117*	1	.117*
	Sig. (2-tailed)	.797	.925	.043		.042
	N	300	300	300	300	300
CusM	Pearson Correlation	.223**	.247**	.054	.117*	1
	Sig. (2-tailed)	.000	.000	.355	.042	
	N	300	300	300	300	300

Note. **. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

As the result from table above, all value of correlation coefficient was positive and all significance level were except for brand awareness (0.355) and service quality (0.042). Since the sig of Brand awareness is $0.355 > 0.05$ so there is not a positive relationship between Customer satisfaction and Brand awareness, in the other hand service quality held a significant of $0.042 < 0.05$ so there still a positive relation between customer satisfaction and service quality. In conclusion there are positive relationship among customer satisfaction, price, product quality and service quality. It is indicated that id customer satisfaction increases its value so does the other variables. So next step, regression Analysis would be applied.

Regression analysis

Relationship between customer satisfactions, switching cost, customer loyalty.

The multi- linear regression analysis was run to test the hypotheses and to check the connection between customer satisfaction, switching cost and customer loyalty.

Table 15
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.613 ^a	.376	.371	.47144

a. Predictors: (Constant), SwM, CusM

According to table, the value of R-square is 0.371 .it means that 37.1 % of changes in customer loyalty could be explained by two variables (CUS and SWI) in the regression equation, so 62.9 % of changes in customer loyalty could be explained by other factors not in the equation.

Table 16
ANOVA of CUS, SWI and LOY

	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	39.696	2	19.848	89.304	.000 ^b
	Residual	66.009	297	.222		
	Total	105.705	299			

- a. Dependent Variable: loyM
b. Predictors: (Constant), SwM, CusM

On the ANOVA Table above, the observed significance level was 0, which was less than 0.05. It means that the whole regression equation had statistical meaning.

Table 17
Coefficients of CUS, SWI and LOY

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.615	.256		2.402	.017		
	CusM	.440	.053	.398	8.301	.000	.916	1.092
	SwM	.392	.051	.365	7.617	.000	.916	1.092

Dependent Variable: loyM

According to the table above :

Coefficients B of CUS and SWI were positive.

The significance value of CUS and SWI was $0 < 0.05$, therefore there was a positive relationship between customer loyalty and customer satisfaction, switching cost. Furthermore among CUS and SWI, CUS held the highest value 0.398 so it has the strongest influence on customer loyalty following up with 0.365 from switching cost.

From the result from table , the linear regressive equation will be:

$$LOY = 0.44CUS + 0.392SWI + 0.615 \quad (1)$$

Relationship between customer satisfaction and price, product quality, brand awareness, service quality.

The multi- linear regression analysis was run to test the hypotheses and to check the connection between customer satisfaction and price, product quality, brand awareness, service quality. The purpose of the test is to see how well the independent factors can affect the dependent factors customer satisfaction and from that develop a regressive linear equation for customer satisfaction.

Table 18

Model Summary of SERQUA, PRICE, PROQUA and CUS

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.349 ^a	.122	.113	.50624

a. Predictors: (Constant), SerM, QuaM, PrM

According to table, the value of R-square is 0.122. it means that 12.2 % of changes in customer satisfaction could be explained by three variables (SERQUA, PROQUA, PRICE) in the regression equation

Table 19

Coefficients of SERQUA, PRICE, PROQUA and CUS

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.261	.302		7.494	.000		
	PrM	.181	.046	.216	3.971	.000	.998	1.002
	QuaM	.152	.035	.240	4.399	.000	.999	1.001
	SerM	.111	.049	.122	2.237	.026	1.000	1.000

a. Dependent Variable: CusM

As the result from the coefficient table above

- All the coefficients B of independent variables are positive
- The sig. value of Price and PROQUA is $0.00 < 0.05$ and the sig. value of SERQUA is $0.026 < 0.05$

As a result, PRICE, PROQUA, SERQUA have a positive influence on customer satisfaction.

In addition, to measure how strong the independent variables affect customer satisfaction, the value beta on the table will be considered. Product quality held the highest score with 0.24 and following up with Price (0.216) and finally is Service quality with 0.122.

From the value coefficient B, the regressive linear equation will be constructed

$$\text{CUS} = 0.181\text{PRICE} + 0.152 \text{PROQUA} + 0.111 \text{SERQUA} + 2.261 \text{ (2)}$$

Conclusion

From equation (1), it is showed that switching cost and customer satisfaction have a positive impact on customer loyalty

From equation (2), it is showed that Price, Product Quality, Service Quality have a possible impact on customer satisfaction

From the 2 equation we can conclude that Price, Product Quality, Service Quality have a positive indirect impact on customer loyalty.

Hypotheses testing result and final model



Figure 7. Final research model

H1	Customer satisfaction has a positive influence on customer loyalty	Supported
H2	Switching cost has a positive influence on customer loyalty	Supported
H3	Price has a positive influence on customer satisfaction	Supported
H4	Product quality has a positive influence on customer satisfaction	Supported
H5	Service quality has a positive influence on customer satisfaction	Supported

CONCLUSION AND RECOMMENDATION

Conclusion

This thesis research was about “factors influence on customer satisfaction and customer loyalty of Binh Duong ceramics “. The purpose of the research was to evaluate and analyze as well as identify the factors that influence the customer satisfaction and customer loyalty of Binh Duong ceramics- a long history brand of ceramics in Vietnam. By discovering customer thinking about satisfaction and loyalty to achieve a higher understanding toward customer of Binh Duong ceramics through that the ceramics seller can change and adapt to the new environment to survive in this international market. This research have a high significant for Binh Duong ceramics maker as well as ceramics seller. They should improve their profit as well as changing their strategy to gain back their market. (The market of ceramics in Vietnam is now dominant by China and Thailand, whereas Vietnam is one of the biggest ceramics exporters in the world). We got the potential, the resources; domestic ceramics market of Vietnam should be dominant by Viet Nam producer.

This study was conducted from March to May in Ho Chi Minh City as well as in Binh Duong, but mainly in Binh Duong. The population of this study was customer of Binh Duong ceramics. Questionnaire survey and in-depth interview was used to identify the customer satisfaction and loyalty toward Binh Duong ceramics. While SPSS was used to analyze the collected data, in-depth interview in Binh Duong was for explaining the final result as well as more information for the recommendation. The target sample size for the questionnaire was 300 respondents. Data analysis process consists of 4 steps: descriptive statistic, Reliability testing, Exploratory Factor Analysis and Regression Analysis.

As the final result brand awareness (H5) hypotheses was not supported. In the other hand the other hypotheses are well supported. Customer satisfaction and switching cost have a positive influence on customer loyalty. Because of this so price, product quality, service quality is indirectly affecting customer loyalty.

The average mean value of customer loyalty toward Binh Duong ceramics is 4.01. Customers are quiet like Binh Duong ceramics and willing to support it. Most of the customer when in-depth interview stated that Binh Duong ceramics product offer better value than others and they prefer Binh Duong ceramics to other supplier. In an in-depth interview with some ceramics store owner in Binh Duong, they stated that “ customer of Binh Duong ceramics once they come here they never go to another place to buy ceramics , some of the customer become long term buyer who continuously buying ceramics product from Binh Duong for several years “ .

In the other hand most of the data was gather from Binh Duong, the researcher was in Binh Duong for 25 days to collect data in more than 15 ceramics store in Binh Duong so it may not correct in the case in HO CHI MINH city. Therefore some adjustment as well as some change in Price, product quality, brand awareness and, service quality.

Discussion and recommendation for Binh Duong ceramics

Price

Among the four independent variables Price share one the highest mean value, customer are really satisfied with the price, but in some depth-interview, the first time purchasing ceramics product in Binh Duong are more likely to choose a Chinese product since its cheaper. The reason for the price of China product is so cheap is because of mass production, their product did not share the same value as our Vietnamese ceramics products. The second thing is that store owner some time cheats their customer by increasing the price of the ceramics product for better profit. A small pot or vase of Chinese product can be varied from 10.000 VND to 100.000 VND but a small pot or vase of Vietnamese product can be varied from 50.000 to 200.000 vnd in some case it much more than that. So the price advantages of our product compare to other is not good, but the quality we share is better since it's all hand made. So it is hard to gain back our domestic market share. Here is some recommendation for Binh Duong ceramics maker:

Pay more on research and figure out what customer really want and make a lot of that one so the cost of making will be decrease as well as the price of the product, so any customer will choose Binh Duong ceramics. Make our own special model ceramics that fits people need both in unique shape and patterns, learn more design from other countries to create our own featured product that attract customer. Store owner could use some sort of promotion to attract customer such as friendly customer card that can reduce the prices of the product, or free delivery if they are loyalty customer. Stocked item should be sold in a better price for the customer, this is not just gaining the price competitive advantages but it will increase the customer awareness on Binh Duong ceramics product.

Product quality:

Product quality share one of the highest mean value, customer are quiet enjoy the quality of the product. In the ceramic extent the quality of the product will not be considered as the first, the first care about the look. The design and pattern of a product is more likely the reason for a customer to buy a ceramics product. In an in-depth interview with a 20 years' experience of a ceramics makers as well as a seller, he stated that " if we talk about the look of the product on the first glance, Binh Duong ceramics as well as Vietnam ceramics cannot compare to Chinese product. Especially for those customer that is the their first time to buy a ceramics product they are more likely to choose a Chinese product since the color of Chinese product are beautiful, but when you look harder and you have a few experience on purchase ceramics products, you won't choose it again since it just a bunch of mass production stuff, it don't have its own specialty, everything the same." So the problem of Binh Duong ceramics product was first experience customer are more likely to choose other product than our product. Another problem is even Binh Duong one of the biggest place to export ceramics product, but there are not so many modern design and well qualified international model of ceramics, and all the product that have international design to export which was sold to Vietnamese customer are disqualified product for exporting

Here are some recommendations to solve the problem:

- Focusing on design, research and develop new model that meet customer need.
- Try to use modern and exported model and design to create a new market in domestic market.
- Allocate the resource to the potential ceramics model, doing research about customer favorite model, try to making ceramics on what customer want and need not what company think customer will need it.
- Since customer need the first time experience to commit with the Binh Duong ceramic, so we can use stock or old ceramics model to achieve price advantages and through that gain the first time experience with Binh Duong ceramics.
- Marketing for the product is one of the easiest ways to achieve first time experience, the seller or the staff needs to introduce more about our domestic brand so that they will understand what they actually buy and what value they actually get.

Service quality

Customer seems to be quiet satisfied with the service quality that Binh Duong ceramics offer to them with the mean of 3.96. Service quality has always been counted as one of the most critical factors that affect a firm or a business. In the ceramics extent customer are more likely to judge the product at the point when it looks good or not. For example the ceramics product will look even better with the light or placed at the right spot with the sunlight through that it can attract more customers to buy the product. Another problem that may concern is the delivery, since ceramics product are fragile items so it easier to broke or malfunction if the seller did not pack it in the right way.

Another problem was the way the product are arranged so complex and unprofessional, from the in-depth interview some customer complaint that since the ceramics product are various so it hard for them to find what they want, and the arrangement of ceramics store in Binh Duong really hard for them to track on the origins of the product, so it hard for them to find what is the real Binh Duong ceramics or Vietnam ceramics .As so many problem was stated out.

Therefore, here are some recommendations for the service quality:

- The seller can put the featured product at the spot light where the ceramics product looks the best to attract customer
- The seller can rearrange the entire ceramics product on origins. All the Binh Duong ceramics should have its own area so the customer can track down what they want easier which can make the customer more satisfied.
- Packaging should be done more proper, seller can use carton box to contain the ceramics product as well as put some soft material inside to make it hard to break.
- The seller can make the store look more reliable and more proper by pricing each ceramics product with a label. So the customer now feels more confident and comfortable when buying ceramics product since they don't have to worry about getting cheated by the seller.

Brand Awareness

Although Brand Awareness was not supported at the final result, it is still considered as one of the factor that may indirectly affect the customer satisfaction. It was stated that brand awareness is a vital element of brand equity in which when the brand is well known it become important to the company since customers may be influenced by the brand, Keller (2003). Binh Duong ceramics village is one the biggest ceramics maker in the south of Vietnam. However, as the domestic market was dominated by China and other countries, so it may not the first brand for all customers to think about at the first place. Hence there are some recommendations to improve the brand awareness for Binh Duong ceramics.

- The seller can increase the brand awareness by making their own web site, or in a much easier way they could use social media channel such as Facebook, Google plus or tweeter,...
- The seller can create some sort of funny design product to generate the brand awareness since customer think about something extraordinary more.

Limitation and recommendation for future research

With only 300 samples from customer in Binh Duong were taken, the sample size of research might limit the validity of the result. Furthermore the research data was mainly in Binh Duong so it may not valid for the whole Vietnam or the HCMC.

The research can be better with more dimensions attracted to customer satisfaction and customer loyalty. The sample size should be higher and the target respondent should be varied. Since the target respond in my study was customer who already using Binh Duong ceramic, the future study should be expand to the whole ceramics industry to achieve more information as well as recommendation for the ceramics market of Vietnam.

Furthermore, 11.3% of changes in customer satisfaction are explained by Price, Product Quality and Service Quality so other dimension should be added to analyze data more precise and understand customer satisfaction much more clearly. In the other hand, 37.1% of customer loyalty was explained by switching cost and customer satisfaction, so other dimension should be added as well.

Moreover, the relationship of customer satisfaction and brand awareness are not supported in this study.

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RETENTION MANAGEMENT: A STUDY OF WHITE GOODS RETAILERS IN MUMBAI

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ABSTRACT

This study focuses on Customer Retention strategies adopted by retailers in the White Goods Sector in the metropolitan city of Mumbai. This customer loyalty is vital to the white goods retailers as there is generally continued retailer preference of the customer over a long period of time. Customer Relationship Practices go a long way in determining the loyalty of customers. It is also a more economical option as compared to the overall cost of acquiring customers. The paper also investigates some of the best practices in this regard.

Keywords: Retention, white goods, best practices.

INTRODUCTION

India has a large retail industry which has shown remarkable growth in the recent past and is undergoing a radical change. To be able to cope with competition and obtain a sustainable market share for themselves, retailers in this industry need to adopt various strategies, practices and techniques to ensure customer attraction, retention and loyalty. These strategies, practices and techniques adopted are collectively referred to as Customer Relationship and Retention Strategies and are about creating relationships where the retailers can offer prompt and quality services in exchange for continued patronage by their existing clients. This customer loyalty is vital to the white goods retailers as there is generally continued retailer preference of the customer over a long period of time. With little product differentiation in similar product categories, aggressive marketing strategies, promotional offers by different players in the retail sector etc., customers often switch their store preferences.

Through customer relations practices, customers can convey their requirements and preferences directly as well as indirectly, through multiple modes of buyer-seller communication such as client database, feedback forms, social media interactions etc. Retailers can then use these as a means of tracking the data thus collected, to provide personalised services to their customers. This then becomes a valuable offering of the seller, to which the customer will retaliate in the form of repeat business and continued loyalty.

NEED AND IMPORTANCE OF CUSTOMER RETENTION

Customer retention practices make it possible for retailers to systematically gather information pertaining to consumer choices, based on which they can service clients on an individual level. This is an effective means of retention, as it not only leads to basic customer satisfaction but also delights the customer. Overall, it acts as a tool for strengthening the longevity of the relation between the retailer and the client. Customer retention is a loyalty strategy that is mutually beneficial to the customers as well as the retailer. The customers are given quality services, sound product knowledge and advice, efficient after-sales service etc. The relation maintained by the retailer ensures satisfaction and loyalty of customers thereby increasing his repeat sales from existing customers in same as well as different product categories. It also helps the retailers obtain qualitative feedback on the overall product offerings which can be passed on to the producers as well.

For the white goods sector, some of the most important customer retaining factors such as service, reliability, product suitability criteria etc. can be more efficiently undertaken by retailers who adopt customer-oriented practices. This increases importance of retention for white goods retailers, in terms of sales turnovers and profits, due to the exclusive nature of services offered by them. Customer

Relationship Practices go a long way in determining the loyalty of customers. It is also a more economical option as compared to the overall cost of acquiring customers.

RESEARCH METHODOLOGY

The study relies on both primary data secondary data. Initially desk research was done to get a background and basic understanding of what customer practices tend to be more convenient, overall benefits, market trends within the white goods sector etc. The actual fieldwork was conducted over a period of 25 days in September 2016.

The selection of the retailers was done with great care In order to ensure accurate information collection, only sales managers and sales executives for white goods in possession of accurate information pertaining to operations, practices, policies and future prospects have been interviewed for this research project.

Retailers that have been surveyed for primary data collection are evenly distributed across the central points of Mumbai city and its western and central suburbs The retailers selected include all income-range options ranging from those housing higher end brands as well as those having lower-end or local brands, to ensure a well-spread data collection.

The questionnaire was administered to a total of 82 retailers out of which usable responses were received from 61 retailers and contain accurate details about customer relationship building, problems existing in the current scenario and possible practices that retailers of Mumbai would be receptive to, subject to certain conditions.

In addition to the questions included in the questionnaire, a more open-ended conversation was also conducted with some managers to gain further insights.

Secondary data is based on case studies on effective practices followed by specific retailers of consumer durables, have been undertaken to understand practices which many not be too popular or widespread but are specific to the retailer or to that sector.

LIMITATIONS OF THE STUDY

The study only provides an overview to the customer retention practices adopted by retailers in the city of Mumbai. This therefore does not give a comprehensive outlook on the retention practices by the Indian white goods retail industry.

Customer satisfaction measurement alone does not explain the tendencies of customers to change their spending patterns. Thus it is crucial to understand what factors actually drive loyalty.

The changing contours of the consumer durable white goods industry are certain relationship drivers which are likely to have an impact across consumer durable white goods categories.

One of the critical factors that influence consumer durable demand in a developing country like India is the government spending on infrastructure, especially the rural electrification programme. Such factors tend to undermine the role of customer retention practices of the retailers in securing greater demand for white goods.

Certain customers may have very specific brand preferences. Even if a retailer follows good customer practices, he may not be able to attract such a customer because he does not keep the brand preferred by the customer.

DATA ANALYSIS AND OBSERVATIONS

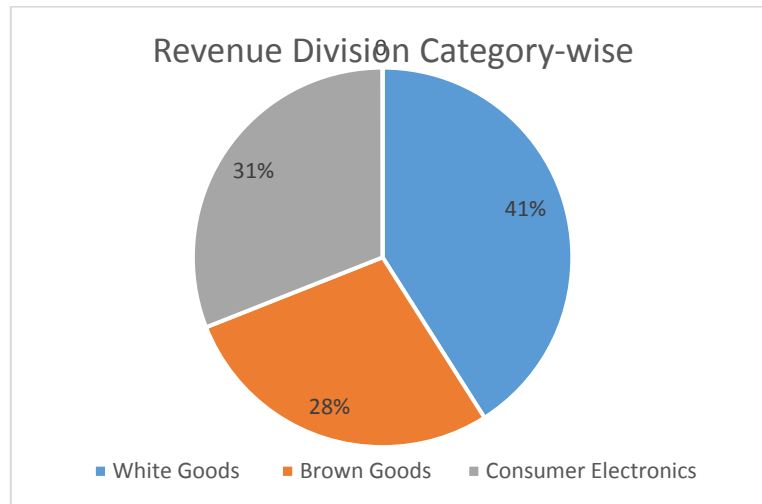


Figure 1. Category of consumer durables constituting the highest percentage of the business.

For majority of the respondents, highest proportion of revenue came from the white goods sector. This is due to the high-value nature of these goods. They also seem to maintain lowest inventory for these goods, as they are easily available on an order basis. White goods are generally followed by consumer electronics and brown goods respectively, in terms of contribution to revenue. These are fast-moving, relatively low-value products for which retailers maintain higher inventory.

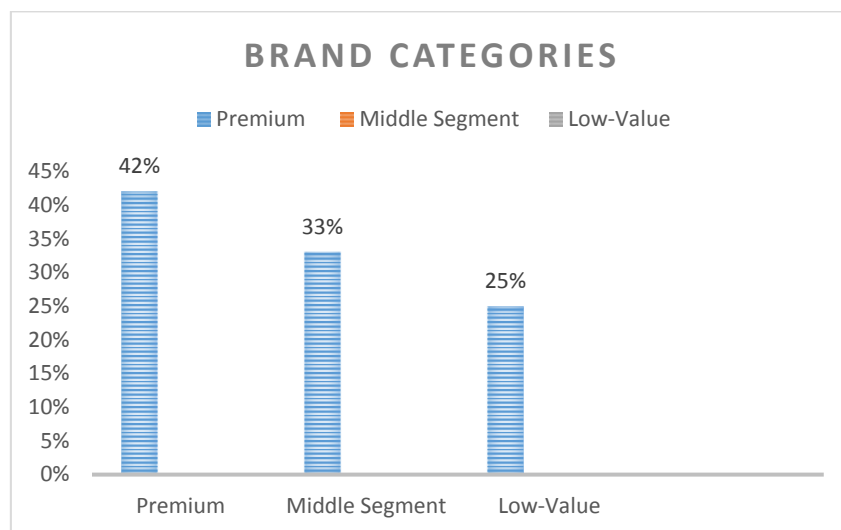


Figure 2. Category of white goods brands in the store.

Most of the retail stores maintain a higher inventory of premium brands in the white goods sector such as Hitachi, Daikin, and IFB etc. Their reasoning for pushing these brands is popularity of these brands leading to more sales and higher revenue. The premium brands are followed by mid-segment brands such as Whirlpool, Godrej, and Panasonic etc. The lower priced brands rank third, including brands like Videocon, Symphony, and Blue Star etc. The respondents also revealed that certain brands like LG and Samsung provide product variety for every income range and are popular with all income groups, leading to retailer promotion of these brands.

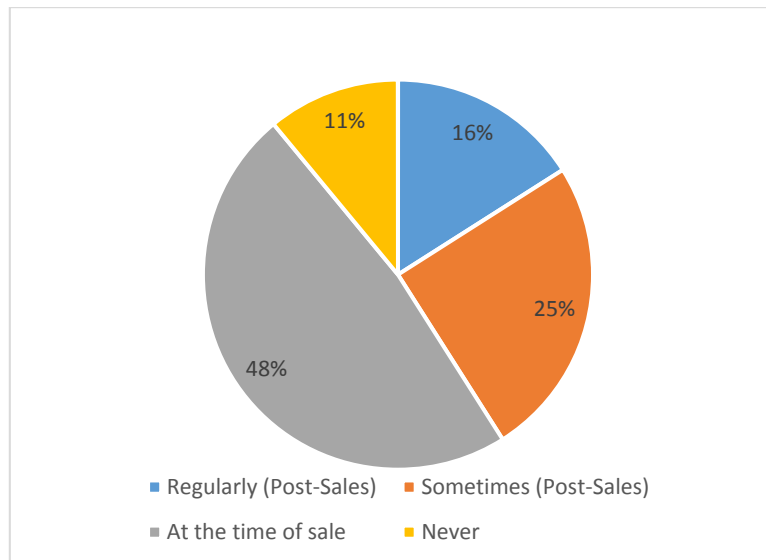


Figure 3. Frequency of collecting customer data.

The data collected can be primarily for two categories of customers: those coming to purchase and those making sales inquiry. In case of the first category, majority of the respondents collected basic customer data only at the time of sales. Very few of them collected data from persons entering the outlet but leaving without making any sales. Catering to both categories of customers were only 16% of the 61 retail representatives who pursue a regular customer data collection policy whereby updated database is maintained by regular customer communication, and data is collected not only from customers making sales but also those inquiring and interested in purchases, although not spontaneously.

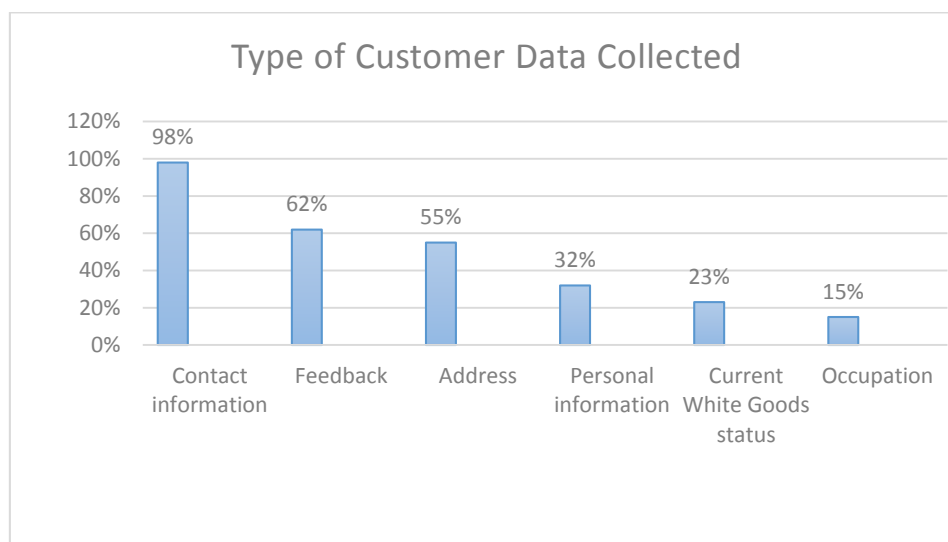


Figure 4. Type of information collected from customers making purchases.

Almost all the retailers surveyed collect contact information from these customers who mainly include their phone numbers and email IDs. Feedback and address is collected by most retailers from purchasing clients. Personal information including family size and demographics is collected by only 32% of the retailers. An important piece of data which is collected by only 23% of the respondents is the current white goods status of every customer inquiring or purchasing from the store. This would include maintaining a database on which brands or categories of refrigerators; washing machines etc. are currently used or preferred by the target groups.

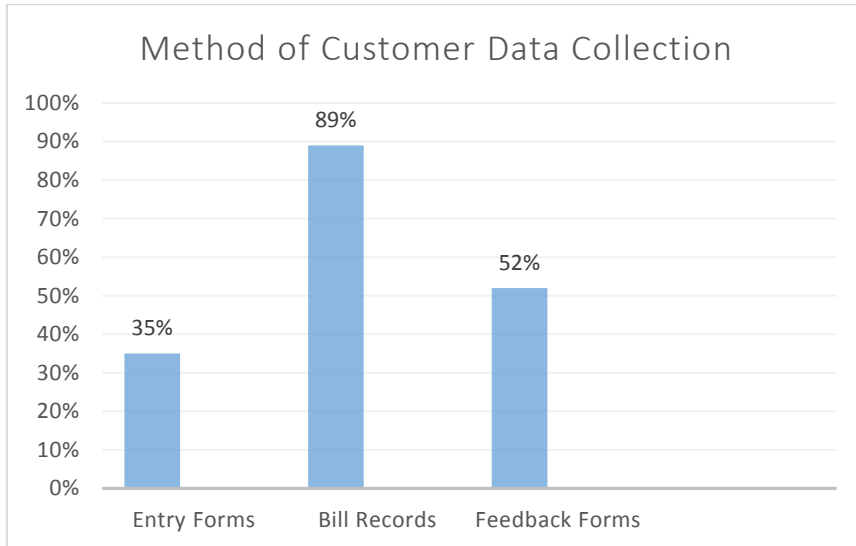


Figure 5. Method of Data Collection.

Bill records were mostly used as references for customer retention practices based on customer data collected. Very few of the retailers follow entry form practices which basically involves filling basic details such as name, contact details, product inquiry etc. Half the retail executives collect feedback forms from all clients (purchasing and inquiring) relating to overall customer satisfaction, sales efficiency etc.

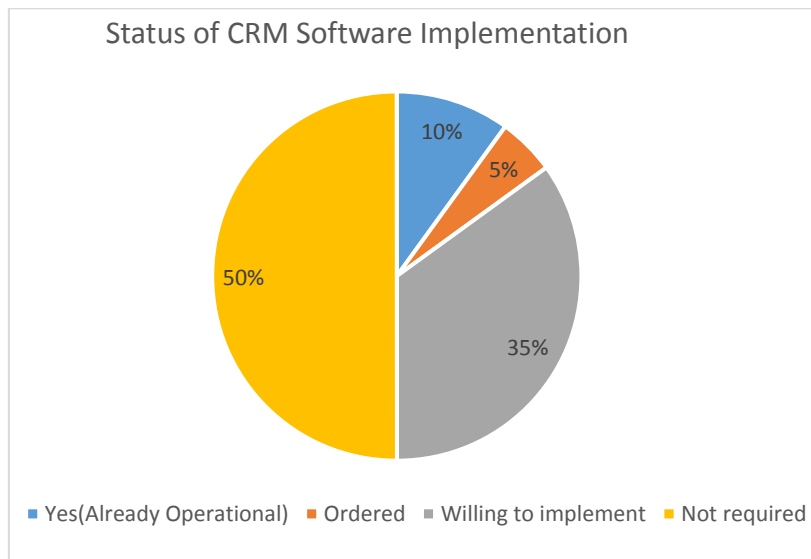


Figure 6. Current status of CRM software in the store.

It is found that mainly the big modern retail format stores are aware of and implement CRM software. Most of the smaller retail stores with multiple outlets are receptive to the idea, once the benefits are explained. However, retail representatives from small single-branch retail stores do not consider CRM software as a requirement due to the smaller scale of their operations. Few of the respondents are in the process of implementing CRM software at their stores.

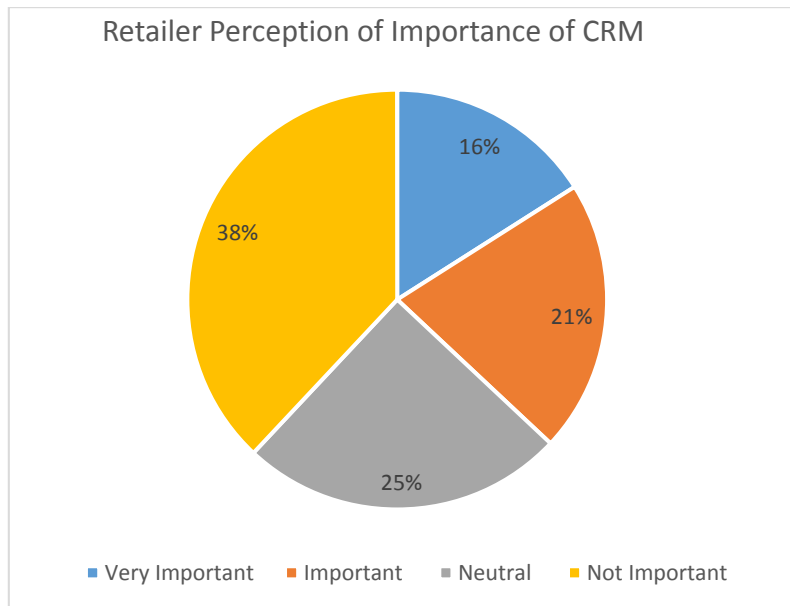


Figure 7. Views on the importance of CRM is ensuring quality customer service and loyalty.

It is observed, that a sizeable portion of the retailers in Mumbai do not perceive CRM strategies of customer retention as important. A few of the retailers, who considered CRM as unimportant, are of the opinion that CRM is a tedious exercise and the returns are not proportionate to the expense, time and human resources required.

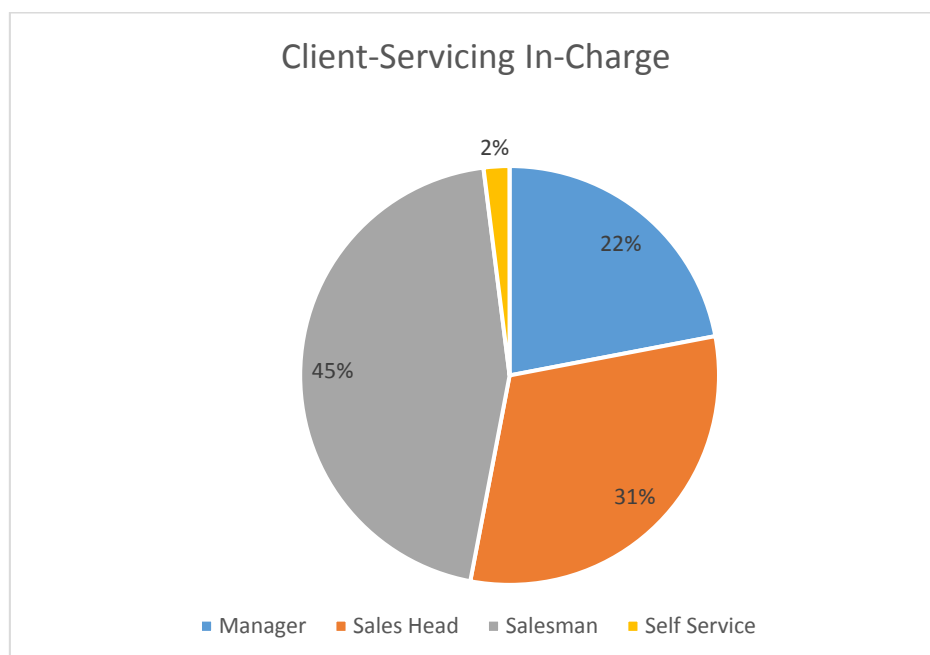


Figure 8. Client Servicing.

Most of retail stores follow a servicing strategy after gauging the product inquiry and interest levels of the customer. In cases where the customer seems to be on a casual visit, he is catered to by the salesmen. Customers perceived to be on a purchase visit or regular/repeat customers are catered to by the sales head or sales manager.

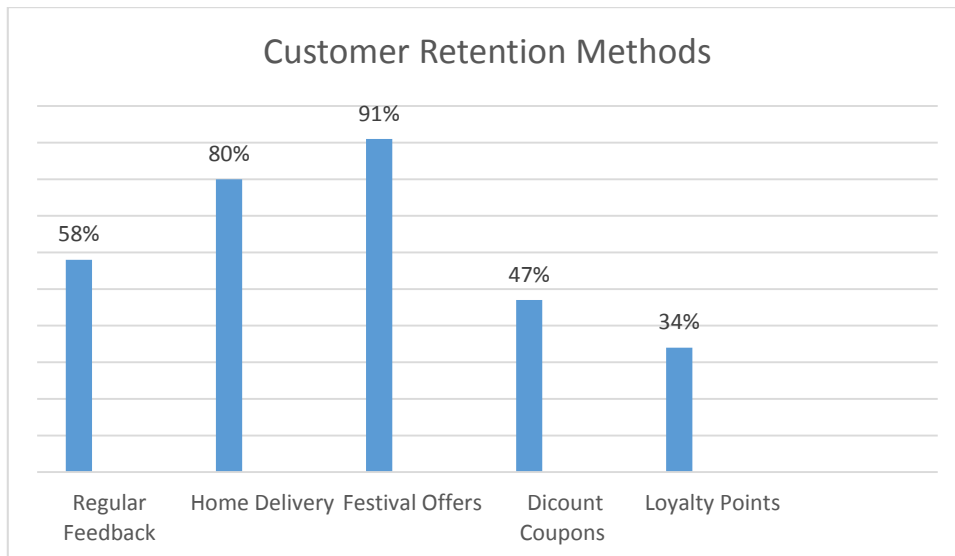


Figure 9. Strategies applied for better customer relationships.

Regular feedback from customers, relating to product performance and service provided, is found to be a highly-adopted customer relations strategy. To increase customer service utility, practically all the retail stores offer home delivery options and also maintain efficient communication with the manufacturing brands to ensure timely installation. Offers during festive seasons such as Halloween, are also popular attraction techniques. Very few retailers within the white goods sector offer membership cards with loyalty points and discount coupons as these are thought to be more suited for lower-value and fast-moving products like apparels, home décor etc.

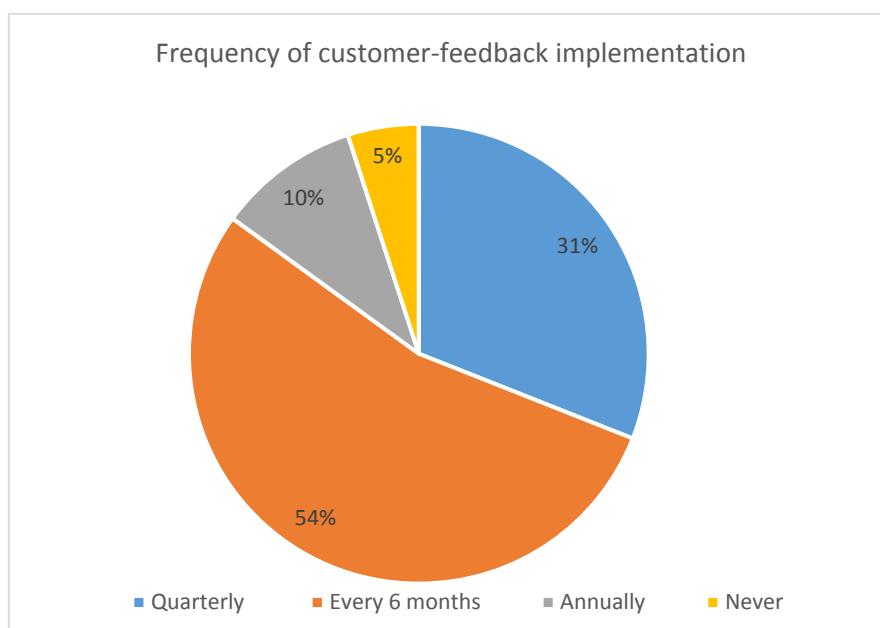


Figure 10. Frequency of assessing consumer feedback and acting upon it.

Most of the retailers process and act upon customer feedback on a half-yearly basis. It is observed that customer feedback is considered vital by almost all the retail representatives as a useful strategy to improve operational efficiency, provide good feedback about the products to the manufacturing brands and also for assessing sales force efficiency.

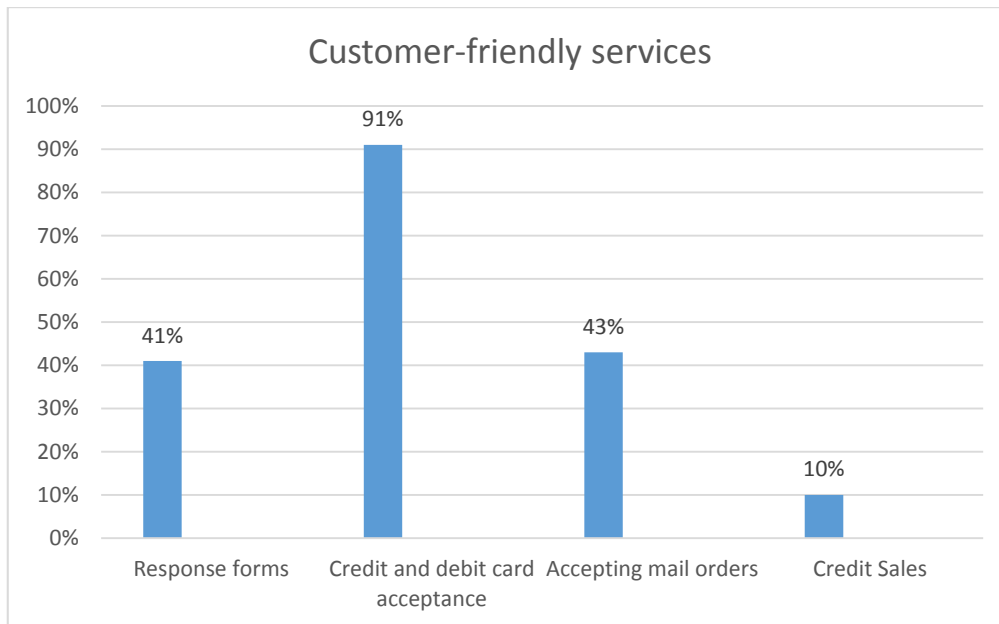


Figure 11. Customer-friendly services provided to improve customer satisfaction.

Response forms collecting customer feedback relating to product inquiry, sales force efficiency etc are an added customer service feature which almost half the retail outlets in Mumbai provide. Practically all offer credit and debit card services for customer convenience maximisation. Accepting and executing orders over mail is an upcoming customer service to reduce the time spent by the customers on purchase of white goods. Although credit sales were an important practice earlier, now the number of credit sales offering retail outlets has reduced significantly due to the risks involved as well as lack of credit popularity even among the customers.

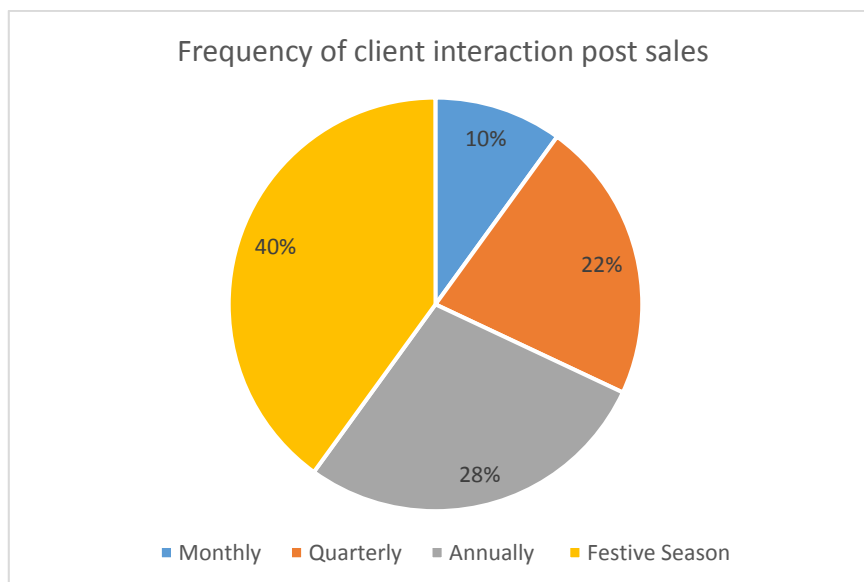


Figure 12. Frequency of customer interaction (if any) post first time sales.

Most of the retail outlets communicate with customers around festive seasons, when they have attractive schemes and offers lined up. They even reach out during non-festive periods if they are having special new launches in product categories that the customer showed interest in during a previous visit. Most of the respondents reveal that customer interaction takes place at least on an annual basis.

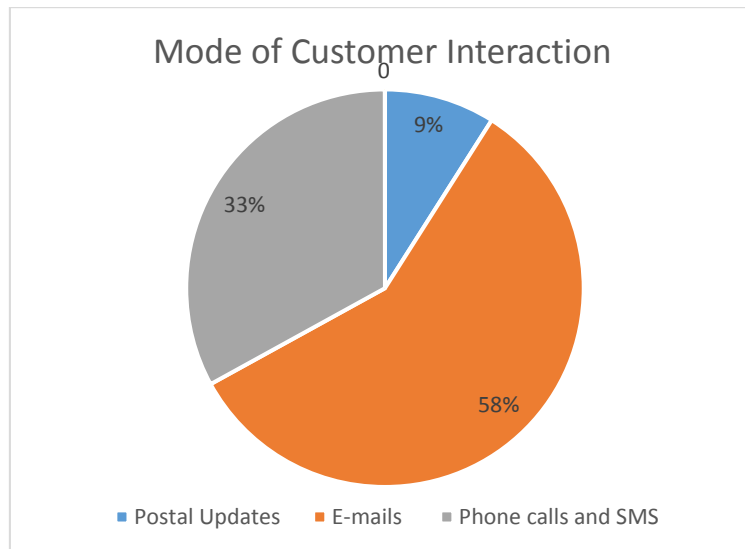


Figure 13. Mode of interaction.

Postal updates whereby customers are sent mail deliveries of new catalogues, offers and so on have now become an outdated mode of interaction. Modern day retailers in Mumbai consider emails and phone communication as an effective means for customer awareness relating to new products, offers and also for collecting periodic feedback on product performance and service efficiency.

BEST PRACTICES

This paper also tries to highlight, on the basis of open ended interviews unique and useful CRM practices adopted by Mumbai retailers in the white goods sector. These case studies are based on retailers participating in the research study as well as some found through secondary research.

Croma: The sales manager participating in the survey pointed out that Croma sees majority of its turnover come from repeat sales, thereby leading to resultant managerial emphasis on CRM practices. The motivated sales force has updated product knowledge. Customers inquiring about products at Croma receive updates on latest launches, offers etc. Croma also maintains a database of all persons making purchases, classified according to the product category. Emails on catalogues, festive schemes etc. are sent to all entries on this database.

R.K. Electronics: This retail store follows a sales staff improvement orientation as a unique approach to customer loyalty. The emphasis is on soft skills and product training to every sales executive. The team leader for the white goods department pointed out that only when the customer feels he has been guided well and received the right product, will he want to visit the store again. Apart from this, they also follow a 'Service with a smile' motto. A database for all customers including their contact information and products purchased is maintained and emails are sent to these customers whenever they have exchange offers in those specific product categories, new launches etc.

Reliance Digital Express: This retail chain capitalises on a post-sales service, as a differentiating strategy, to retain existing and attract new customers. They operate their own chain of service centres and provide service warranty for 5-10 years in addition to the manufacturers' warranty. The idea is to maximise customer satisfaction by making sure there is prompt and quality product service/repairs independent of any service shortcomings of the manufacturing brands.

KayBee Electronics: This white goods retail outlet relies on comprehensive database-building to ensure customer loyalty. At the time of sales, data relating to current white goods used by the customer, brand preferences as well as future plans for white goods purchases, is collected. For example, if a particular customer is interested in purchasing an air conditioner in the near future and has listed Hitachi as a brand preference, the retail outlet will send him communication when they have

new launches or special offers for Hitachi air conditioners or those of similar brands. This also leads to good customer relationship, according to the sales manager, as the customers feel cared for and develop a strong retailer preference.

E-Zone: Membership cards are issued to buyers, at the time of their first purchases. The members then get loyalty points for all future purchases, which differ based on the value of products purchased. Once the customer collects a certain number of points, he is entitled to free consumer electronics (generally small kitchen appliances).

Zee Novelties: In addition to collecting customer contact details, this retail store also maintains information relating to birthdays and anniversaries of their customers. Greetings emails are then sent by system-generated software to the customers on their birthdays or anniversaries. This gives a personal touch to the relation the retail outlet maintains with customers.

Kohinoor: This modern retail chain offers promotional offers and schemes almost every year, with a policy of added incentives to loyal customers. It has exchange offers all-year round. Communication via email and SMS is sent to existing customers about exchange offers and other schemes, as well as regular feedback calls to get qualitative customer feedback for the products as well as company service, on the basis of which they give regular company feedback to the manufacturers.

Nehamishi Electronics: A small single-branch white goods retail outlet, it offers technological advantages to customers. Services provided include product comparisons (specifics, prices) etc. by email, online order-placing and online feedback forms. The strategy is to find a mid-point between brick-and mortar stores and online stores and offer advantages of both. So customers can avail of warranty available to offline distributors, and also get the benefit of convenience and time-efficient shopping.

RECOMMENDATIONS AND CONCLUSIONS

A large portion of the retailers surveyed do not give adequate importance to retention strategies, as they consider these as resource-intensive and without adequate returns. However, this should not be the case as nowadays competition has become very aggressive and even the slightest differentiated approach towards customers can go a long way in giving the retailer a competitive edge.

Sales force efficiency is one of the most crucial factors determining customer loyalty. This can be improved by proper and periodic training to the employees pertaining to product knowledge and comparative advantages of different variants within a product category, as well as training in behavioural aspects. Employee appraisals based on customer feedback and sales targets can also be an incentivising factor for the sales force.

Very few of the respondents maintain database with adequate, useful information. Most of them only collected information such as contact details, basic feedback etc. however, it is in the interest of the retailer to start collecting information relating to the white goods currently in use by customers, so they can be informed about exchange offers or schemes in relevant product categories, as well as maintaining a personal database of the customers containing data relating to occupation of the customer, brand preferences, future purchases etc. as these can be analysed and converted into potential sales for the future.

The feedback collected should be more comprehensive in nature. Some of the retailers do not collect feedback on the salesperson's efficiency, overall product variety, display effectiveness etc. Feedback along this kind of criteria can also help the retailer make his store more customer-friendly.

Promotional offers and schemes that the retailers provide can be differentiated for long-time and new customers, with added benefits for the former. This can also serve as a good loyalty strategy as the existing customers will feel valued and the new customers will want to come back for later purchases, to be able to avail of these benefits.

Social media can go a long way for customer relationship building. The retailers in the white goods sector, especially multiple chain modern retail stores, can use social media as a cost-effective as well as efficient model of creating customer awareness relating to schemes, offers and discounts and also for receiving feedback and redressal of consumer grievances. It can also open up avenues for marketing campaigns and other modern marketing tools for these retailers.

In the case of durable white goods, the priorities and needs of the customers continuously shift, which means retailers need to anticipate what they require or want next. There has to be a conscious effort by the retailer to track customer trends and preferences by maintaining continuous communication with his customers. This will help the retail outlet become a preferred white goods destination due to stocking of latest product technologies and also facilitate the retailer to pass on customer knowledge to producers who in turn can keep these preferences in mind while designing new product variants or categories.

To maintain CRM in retail is to think to provide “Every Help Possible” to the customer. Retail thought process should revolve around a single question-“How are you going to do a better job for them?” Answering this from time to time can help the retailer come up with varied strategies for customer retention.

It is inferred from the primary research that not many respondents are aware of the benefits of installing CRM software. Having such software facilitates automated processing of customer data and reveals trends in preferred product features, popular price categories and so on, which can improve the retail stocking and display, and resultantly increase customer satisfaction. Therefore installation of CRM software, even a basic one, is recommended.

Placing direct calls may be a slightly expensive mode of communication but can prove to yield good returns. It adds a personal touch to the retailer-customer relation and if implemented effectively, can even induce customer loyalty.

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NEUROSCIENCE IN FINANCE: A SURVEY

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ABSTRACT

This article reviews the literature on neuroscience-finance. A number of tools and methodologies used in neuroscience to study financial decision making have been covered from the past to the present. Key results are highlighted and possible future directions for research are also identified.

Keywords: Survey, Neuroscience, Review, Finance, Neurofinance

I. INTRODUCTION

Most economic and finance research have explained various financial phenomena or build financial models based on the assumptions that economic agents who make decisions are fully rational. However, it has proved very difficult to explain the behaviors of some investors. Some investors put all their capital into extremely risky investments such as a gambling. The return from these sorts of investments could be extremely attractive, but the risk is also extreme. In fact, the chance of receiving huge payoffs from a gambling is so slim that it does not seem a good investment. Still, a number of people love gambling even though they could end up with a huge pile of debt. Traditional financial research cannot explain this seemingly irrational behavior of investors, some of the theories fail empirical tests spectacularly due to omitting some unknown, yet crucial factors. This has led researchers in recent years to explore the interdisciplinary area of psychology and finance, so-called behavioral finance, to gain more understandings about human's psychological nature.

Research in behavioral finance has grown rapidly by taking into consideration the common behavioral traits of human such as overconfidence, mental accounting, anchoring, herding, overreaction, etc. They have been successful so far in predicting what fully-rational models have missed. But we still need to question further in order to gain more understandings on what happening underlying such irrational human behaviors. That is where a new promising interdisciplinary field of neuroscience and finance has emerged.

Neuroscience involves studying brain activities to see how different parts of brains respond to different arousals and how brain activities affect human bodies and behaviors. Neuroscience research also considers physiological measures such as respiration, body temperature, blood volume pulse, heart rate, skin conductance, and muscular tone. A neuroscience study can be extended to incorporate the degrees of irrationality by using self-report psychological measurements such as impulsivity, personality which reveals extroversion/introversion, risk-seeking, etc. Lo and Repin (2002) and Lo et al. (2005) found the relationships between financial decision makings and physiological arousal. However, it is not straightforward to see the direction of causality. The financial situation being faced could cause the physiological outcomes, and at the same time, the states of body and mind observed from physiological measurements could influence the financial decisions (Wu, Sacchet, and Knutson, 2012).

A pioneering neurofinance study may be traced back to 2001, where Knutson, Adams, Fong, and Hommer used functional magnetic resonance imaging (fMRI) to detect changes in the Oxygen level in blood flow to measure the brain activity. The study found that the activity of the part of brain called "Nucleus Accumbens" or NAcc has a significant relationship with anticipating increasing monetary reward, but NAcc has no significant relationship with punishment. In recent years, the neuroimaging technology has advanced greatly that the activity of different parts of brain can be seen more easily, more clearly, and in real-time. This has made possible the studies of activity inside the brain and to

see how this relates to variations in financial decision making such as different level of risk aversion, or why people having more experience in stock market tend to make better investment decisions. What actually happen inside their brains and how do they differ from those with less experience? Studies in Neurofinance will allow us to gain more understandings of what mechanisms inside the brains that affect our financial behavior such as buy/sell stocks, irrational investment decisions, anomalies; and how they affect it (Peterson, 2014).

II. Measurements in Neurofinance

Neurofinance is relied on a number of measurements from neuroscience, for instance, Functional Magnetic Resonance Image (fMRI), Positron Emission Tomography (PET), Magnetoencephalography (MEG), Transcranial Magnetic – Stimulation (TMS), Scalp Electroencephalography (EEG); or on psychophysiological equipment e.g. Galvanic Skin Response (GSR) , Electrocardiogram (ECG or EKG) (Ascher, Silva, Veiga, and Souza, 2016). In some studies, these measurements are used in conjunction with psychological tests e.g. IQ test or other cognitive tests (e.g. WAIS) or with self-report questionnaires or financial decision tasks (e.g. Iowa Gambling Task; IGT, Loss Aversion Task; LAT). Other studies may collect saliva samples to measure hormones level (e.g. salivary testosterone levels) or DNA for gene analysis (e.g. 5-HTT polymorphism). Future studies may incorporate pharmacological methods.

The most popular equipment in neurofinance is fMRI because the study can be done without any physical intrusions into body¹, no exposure to radioactivity, and have a variety of applications (Peterson, 2014). fMRI detects the oxygen level in blood. When certain parts of brain are active, more blood will flow to these parts to give energy and an increased density of oxygen in blood flow will be detected around these areas.

III. LITERATURE ON BRAIN ACTIVITIES

Kuhnen and Knutson (2005) used functional magnetic resonance imaging (fMRI) to study a part of brain called Nucleus Accumbens (NAcc) and found that it can predict the risk taking and the decisions to undertake risky investments, whereas another part of brain called Anterior Insula (AIns) can be used to predict risk avoidance. Therefore, the risk taking and risk avoidance are controlled by different parts of the brain.

Knutson and Greer (2008) proposed an anticipatory affect model that explains that the perceptions of possible gains and losses will have positive impact on emotions (e.g. being excited), during which NAcc is active, and the chance of risk being undertaken would increase; or negative impact on emotions (e.g. being anxious), during which the anterior insula is active, and the chance of risky investment being turned down would be high.

Knutson, Wimmer, Kuhnen and Winkielman (2008) found that not only the chance of positive financial outcomes that positively influences the decision to undertake risk, but images of sexy ladies can also have positive affect (excitement), which activates the NAcc, thereby leading to an increased willingness to undertake risk. This is perhaps why casino tries to keep its customers in good moods by offering attractive promotions such as free drinks and hiring attractive women to work in casino. The opposite effect can be found with frightening images such as snakes, which would activates the anterior insula (AIns), leading to a decrease in willingness to take risk (Kuhnen and Knutson, 2011).

These findings have shown us insights on how emotions or moods can influence our decision to undertake risk (i.e. via NAcc and the AIns), leading us to suboptimal decision making. Encouraging the positive affect (e.g. excitement) will influence us into accepting risky choices more easily, while during having negative affect such as panic or anxious, low risky choices or financial protections such as insurance will appear more attractive (Kuhnen and Knutson, 2005; Peterson, 2014). This also

¹ Some MRI scan may require an injection of contrast material into bloodstream.

explains why investors tend to be over-optimistic during the market upturns and over-pessimistic during the market downturns.

Wu, Sacchet, and Knutson (2012) conducted a study on the relationship between statistical moments and two parts of brain: a) the ventral striatum, where NAcc is located, and b) the anterior insula. Using fMRI to monitor the brain activities, they found that when statistical moments are presented in different forms (i.e. high/low mean, high/low variance, high/low skewness), several overlapping parts of brain are activated. The statistical moments that represents a large gain (e.g. high mean, positive skewness) will activate the ventral striatum most, compared to other parts of brain. On the other hand, the statistical moments representing a large loss (e.g. high variance, negative skewness) will activate the anterior insula the most. When contrasting the brain activities of two different statistical moments by using Activation Likelihood Estimates (ALE), they found that high versus low mean will highlight the activity at the ventral striatum the most; high versus low variance leads to most activities at the anterior insula; high versus low skewness activates the left ventral striatum most. These findings strengthened previous studies on the influence of these two parts of the brain on the decisions to undertake risk. In effect, for a given statistical moment, an outcome can be predicted from looking at neuro images to see whether it contributes to positive or negative affect.

Xue, Lu, Levin, and Bechara (2010) studied how prior experience affects the decision making involving risk and found that it is associated with two parts of brain called bilateral insula and dorsal medial prefrontal cortices (DMPFC). In this research, the participants are asked to play a modified Cups Task of Levin et al. (2007) while their brains being monitored. In the computer screen, each participant is presented with 3 – 11 cups, randomly. The first cup pays a reward of \$4 – 8 by some random process, and the remaining cups will always incur \$1 loss for each cup. So, the fewer the cups, the higher the chance of winning. There are three possible situations: a) fair game (FG) where the expected value of the net payoff (EV) equals 0, b) risk advantageous (RA) where the $EV > 0$, and c) risk disadvantageous (RD) where the $EV < 0$. From the number of cups presented, the participant will assess the chance of winning before she decides whether to risk opening all the cups (Risk) or not (Norisk). If she decides to take risk, there are two possible outcomes: Riskwin and Riskloss. In the experiment, there are two episodes of trials where the exposure trials will formulate the prior risk experience for each participant. RA and RD are used in the exposure trials. The resulting decisions are observed in the probe trials where only FG is presented. This is to see whether the prior experience---Riskwin, Riskloss, and Norisk---has any influence of the decisions to take risk in a subsequent trial. The results suggest that the participants who took no risk in the first trial tends to take on the risk in the subsequent trial more than the participants who took risk in the first trial. The percentage of participants in the case of Norisk in the first trial that takes on the risk in subsequent trial is also higher than the case of Riskwin in the first trial.

Looking at the brain activities in the exposure trial, it was found that the bilateral insula (both left and right) and DMPFC are significantly more active in the cases of Riskwin and Riskloss than the case of Norisk. But between Riskwin and Riskloss, the former has significantly higher influence on the bilateral insula and DMPFC than the latter. Turning to the brain activities in the probe trial where the participants of Norisk in the exposure trial tend to take on risk in this second trial, it was found that the bilateral insula and the anterior cingulate cortex play an active role. Thus, it can be summed up that those having no prior risk experience tend to take risk more than those already having prior risk experience, due to the brain activities.

When thinking of experience, one may think about ages. The higher the age, the more the experience. Samanez-Larkin, Kuhnen, Yoo, and Knutson (2010), however, revealed that as people get older, they are more likely to choose suboptimal options. There are 110 participants in this research with the ages ranging from 19 – 85 years old (mean age = 51.4), and 52% are female; 38 participants are in the control group, 54 of the remaining 72 participants are monitored by fMRI during the tasks. The participants are asked to do the modified version of the Behavioral Investment Allocation Strategy (BIAS) task (Kuhnen and Knutson, 2005). There are 10 episodes of 10 trials for each episode. A participant will complete 100 trials in total. For each trial, there are three assets---Stock A, Stock B,

and Bond---where the participant is asked to choose one asset. Among the two stocks, one is the good stock which pays \$10 with 50% chance, \$0 with 25% chance, and -\$10 with 25% chance. The bad stock will pay \$10 with 25% chance, \$0 with 25% chance, and -\$10 with 50% chance. The bond will pay \$1 with certainty. There are three possible scenarios of suboptimal choices or mistakes: a) risk-seeking mistakes, where the participant chooses risky choices when the riskless option is optimal, b) confusion mistakes, where the participant chooses bad stock rather than good one, even though she has learnt for some time which stock is more likely the good one, c) risk aversion, where the participant should try to choose the good stock that pays higher expected return as they have learnt to isolate good from bad for some time, but still choose the bond which gives lower return. The results found that age is positively related to risk-seeking mistakes. This effect is passed on via the temporal variability in NAcc; in other words, getting older will lead to higher variability in NAcc, thereby higher chance of committing risk-seeking mistakes. In other studies, it has been found that age affects variability in dopamine (Braskie et al., 2008; Dreher et al., 2008), which in turn negatively affects the reward system (Dreher et al., 2008).

It was unfortunate that the current fMRI technology cannot detect the dopamine firing. In fact, the dopamine firing could interfere the results of fMRI. Samanez-Larkin et al. (2010) suggested that future research may use other equipment that can trace the dopamine in the brain, for instance, positron emission tomography (PET) or pharmacological manipulations of dopamine, in conjunction with fMRI to expand the measurements of brain activities.

In another related research, Balodis, Kober, Worhunsky, Stevens, Pearson, and Potenza (2012), where a group of participants with pathological gambling disorder (PG) are studied in comparison to a control group of healthy participants. The participants are asked to do modified Monetary Incentive Delay Task (MIDT) developed from Knutson et al. (2001), Andrews et al. (2011). There are three phases: A1) prospect of reward, A2) anticipation of reward/loss, A3) notification of reward/loss (the outcome phase). During the tasks, brain activities in several parts, such as ventral striatum (VS), ventromedial prefrontal cortex (vmPFC), and anterior Insula (AIns), are monitored by fMRI. The results showed that the levels of brain activities of VS and vmPFC in anticipatory phase, vmPFC in reward outcome phase, and AIns in the loss outcome phase of PG participants are lower than healthy participants. Since vmPFC coordinates with other parts of brain in interpreting the value of win or loss and the prediction of the values, a lower activity of vmPFC means the ability to adapt the behavior in response to changes in the prediction would be lower. Moreover, a lower activity in reward outcome phase may also affect the reinforcement system (Samanez-Larkin et al., 2010). A lower activity of VS would also make it more difficult to maintain the reward expectation. Since AIns controls the loss prediction, a lower activity of this part of brain would lead to lower risk aversion (Kuhnen et al., 2005; Paulus et al., 2003; Samanez-Larkin et al., 2010) Similar to those with insular dysfunction, they are more willing to gamble, and often undertake unreasonably large bets that healthy people would rather not do as the chance of loss is extreme (Clark et al., 2008).

There are several studies looking at the relationship between hormones, genes, and decision making involving with risk. For instance, Bechara et al. (2005) used Iowa gambling task in their study whereas Tom et al. (2007) used a loss aversion task. Serotonin (5-HT), in particular, was found to influence our decision making according to research based on serotonin transporter gene-linked polymorphic region (5-HTTLPR) which rectifies the serotonin in the brain to the balance level (He et al., 2010; Miu et al., 2012). There are a lot of axons involved in several parts of brain---the prefrontal cortex (orbital, ventromedial and dorsolateral), amygdala, striatum and insular cortex (Baumgarten and Grozdanovic, 2000; Wai et al., 2008). He et al. (2010) studied how 5-HTTLPR related to decision making under ambiguity and that under risk by using Iowa gambling task. Other studies, such as Stanton, Liening, and Schultheiss (2010) and Apicella, Dreber, Campbell, Gray, Hoffman, and Little (2008), found participants with higher testosterone tend to take risk more than those with lower testosterone, regardless of their genders.

Research has led us thus far to a conclusion that people make different risky decisions because they have different neural circuits and genetic structures in their brains. The latest piece of research is

perhaps Leong, Pestilli, Wu, Samanez-Larkin, and Knutson (2016) who reported that there exists white-matter tract that links NAcc and the anterior insula together. The trend of neurofinance research is now to explore the connections between different parts of brain which will allow us to gain more understanding of how activities inside our brain influence the way to undertaking risk and other decisions we make, and why individuals make decisions differently. It will also be useful to design an intervention or training program that would help investors make more rational decisions.

IV. CONCLUSION

This article has reviewed the literature on neuroscience-finance. A number of tools and methodologies used in neuroscience to study financial decision making have been covered from the past to the present. Possible future directions are also identified.

In early days, fMRI have been used to study the relationship between NAcc and risk taking; later it has been found that AIns commands the risk avoidance. Positive (Negative) affect is found to influence NAcc (AIns), which in turn makes us more (less) willing to take risk. The positive and negative affects do not have to relate the tasks or the decisions we make. For instance, an excitement from seeing images of attractive men or women would make us more willing to take more risk.

Next, research explained how our brains perceive different probability distributions based on statistical moments and how we make decisions. Prior experience was found to change how we make risky decisions in subsequent periods. As people get older, their variability of brain activities increase, thereby leading to suboptimal/irrational decisions.

The future directions of research should focus more on the interaction or the linkage between different parts of brain; how they are interacted with each other. Also, more studies on the pathway or sequence of influence should be done because current studies only look at snapshots of activities in certain areas of brain. We still do not have the big picture of how different parts of brain interplay.

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NEUROSCIENCE RESEARCH IN CONSUMER BEHAVIORS AND DECISION MAKING

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In recent years, the research in Neuroscience has been used in several research in consumer perceptions and behaviors as an alternative tool to understand the consumers better. There have been many studies that extends the use of different tools in neuroscience and combined them into different contexts of human, and not just consumers, behaviors.

I. OBJECTIVES OF THE STUDY

This study aims to explore the field of neuroscience from the aspect of consumer decision and behaviors and to review literature related to these two fields.

The first part of this paper deals with several terminologies and definitions related to neuroscience and decision making and behaviors of consumers. The second part of this paper reviews literature in these fields, including challenges in research in this field.

II. TERMINOLOGIES AND DEFINITIONS

2.1 Neuroscience and Consumer Decision Making

Smidts et al., in their paper, “Advancing consumer neuroscience” (2014) stated that one of the first papers to discuss the relevance of neuroscience and biology to decision research originated from a workshop on the topic at the Invitational Choice Symposium in 2004 (Shiv et al., 2005). The paper asserted that “knowledge in neuroscience can potentially enrich research on decision-making” (p. 375) and “integrating neuroscience with decision-making offers tremendous potential” (p. 385).

Smidts et al. (2014) also said that among the first few studies in neuroscience that are related to the field of business and management, the first one appeared in Ho and Spence (2009) in their article, “Using peripersonal warning signals to orient a driver’s gaze”. Another book on neuroscience came out in 2011 by Vartanian, and Mandel entitled, “Neuroscience of decision making.” These two studies are considered a pioneer in the field of decision neuroscience.

Subsequently, Smidts et al. (2014) noted that, ten years later, significant progress has been made in decision neuroscience (broadly used to include decision-making research in neuroeconomics, consumer neuroscience, and social neuroscience). In addition, they stated that consumer neuroscience itself covers a broad range of topics. All four elements of the marketing mix—product, price, promotion, and place—have received at least some research attention in the discipline’s first decade. Most attention has been given to pricing and products (e.g., Knutson et al., 2007; Plassmann et al., 2008), including branding (for review, see Plassmann et al., 2012).

Neuroeconomics provides the closest parallel to consumer neuroscience and may also provide the clearest indication of its future development. Broadly considered, neuroeconomics uses neuroscience to elucidate the mechanisms of decision making, with a particular focus on models and variables often considered within economics (e.g., reward magnitude, probability, temporal delay).

In 2012, a group of researchers led by Yoon (Yoon et al., 2012) proposed that the fields of decision neuroscience and consumer neuroscience are academic disciplines that use a multidisciplinary and multimodal perspective that can tackle various research questions. They argued that just because economic and decision-making models have been silent about the biological mechanisms does not mean that neuroscience and biological variables would be irrelevant in theory testing. Yoon and her

group proposed that neuroscience can be used in future theory testing in consumer decision making and suggests ways that neuroscience methods can be used in decision-making research.

In another article, Pop and Iorga (2014) argued that the entire classic economy started from the premise that people are rational human beings. Thus, the rational hypothesis is built on two major concepts: most of the times, people assess accurately events around them and, when they make a decision, this targets their direct interest. However, researches show that these concepts are not preserved in people's daily practice. Most of the times, their decisions are rather irrational, bearing a strong emotional load, and people do not always take decisions that only target their own interest (most of the times, if this option benefitted them more and prejudiced the other parties, they are willing to reduce their direct benefit).

Pop noted that neuroeconomy was consolidated as a fully-fledged field after the increase of the researchers' interest in applying the investigation techniques in neurology on market research. Until recently, the traditional market research believes that the human body is a "black box" that can hardly be apprehended and assessed directly. Neuroimaging techniques have evolved dramatically in the past years while equipment costs went down, thus allowing researchers to use them on a larger scale in order to look into the consumers' brain and discover brain reactions that are at the basis of complex cognitive processes. Thus, scientists have the possibility to correlate processes such as decision-making, judgment, encoding memory or emotions with marketing concepts, such as positioning, brand loyalty and consumer reaction to marketing messages (Perrachione, 2008).

2.2 Neuromarketing

In an article by Boricean (2009), "How to understand the consumer's and the market's way of thinking", it was stated that Neuromarketing is one of the basic domains one can better understand the consumer's behaviour. Here, marketing experts discover wishes, expectancies and hidden reserves of the consumers' options, using the technology transfer of medical imagery, which produces a major change in the relationship between the companies and their customers. In contrast to Pop, Debija, and Iorga (2014) who said that that term neuromarketing was introduced by professor Ale Smitds of the Erasmus University in Rotterdam, she stated that Professor Vernon L. Smidts, the winner of the Nobel Prize in Economy in 2002, invented the term of neuromarketing that same year.

Another research by Pop and Iorga in 2012, titled "A new challenge for contemporary marketing – Nueromarketing," is another study that pointed out the possible tie between consumers, marketing, and neuroscience. The article presumed that contemporary marketing is constantly subject to challenges generated by the evolution of market relations. The article shapes conceptual aspects of this new challenge, i.e. neuromarketing.

Since it is a social-human science called upon to optimize flows of goods, services, ideas and rights that constantly meet human needs, marketing is characterized, first of all, by its interdisciplinary nature (Zaharia et al., 2009). During the last decade, a new challenge appeared for this management science (or marketing) and that is neuromarketing.

In another study, it is noted that one of neuroeconomy's most dominant applicative developments consists in neuromarketing. Bright House Company in Atlanta was the first to use neuromarketing in a press release on the creation of a market research division that uses medical imaging (<http://www.prweb.com/releases/2002/6/prweb40936.htm>).

Agarwal and Dutta in their article, "Neuromarketing and consumer neuroscience: current understanding and the way forward" in 2015 specified that the traditional market research methods, used to understand the consumer behavior, fail to tap into the subconscious processes happening in the brain of the consumers. They said that this leads to mismatch between the market research findings and the actual behavior displayed by the consumers at the point of purchase.

Though consumer neuroscience and neuromarketing are often used interchangeably in the marketing literature, the former refers to academic research at the intersection of neuroscience, psychology and

marketing while the latter generally refers to practitioner or popular interest in neurophysiological tools. Consumer neuroscience is therefore a more rigorous version of neuromarketing, findings of which are embedded in theory.

Another paper by Pop, Debija, and Iorga in 2014 made notice that the development of neuroimaging techniques over the last years and their application outside the medical field has opened new research opportunities with respect to consumer behaviour or the own decision-making process.

Consequently, new research fields, such as cognitive neuroscience (Gazzaniga, 2004) and *social neuroscience* (Cacioppo and Berntson, 2005) have emerged. One of these fields, *neuroeconomics*, is on the border between neurosciences and economy and attempts to explain the decision-making process by developing a neural model (Egidi, 2008). Contrary to the classical economic theory which states that people generally make rational decisions to maximize their own benefit (Camerer and Fehr, 2006), present studies show that 95% of our decisions are taken at the subconscious level (Zaltman, 2003).

They explained the term Neuromarketing as an expanded field of research on neuroeconomics. The term was introduced by professor Ale Smitds of the Erasmus University in Rotterdam (Roebuck, 2011) as a reference to the application of neuroimaging techniques in the market research. The main difference between neuromarketing research and traditional research methods lies in the fact that with the former the subjects are not asked to express their opinion regarding a particular topic. Therefore, labelling neuromarketing as a science per se entails designing and developing a behavioral model capable of highlighting the marketing stimuli that generate a particular behavior.

III. APPLICATIONS OF NEUROSCIENCE IN CONSUMER DECISION MAKING AND BEHAVIORS

Pop and Iorga (2012) in their paper listed the areas where neuromarketing can be used are:

- *Designing food and beverage products*: the perception of flavor is a complex process, which requires the integration of numerous sensorial stimuli, such as taste, texture, smell and looks. The neuroimaging tools proved to be efficient in decoding this complex process and can be successfully used in designing the new product;
- *Architecture for designing a new building*: measuring the brain activity generated by the image of various parts of a building or by integrating the discoveries of imaging into the building design process. This is possible with the help of a virtual reality, which allows researchers to create very accurate building or environment simulations and to measure, with the help of a functional MRI the subject's brain activity that "wander" virtual corridors.
- *Movie industry*: a study with the help of a functional MRI carried out on subjects that looked at a scene from the western movie *The Good, the Bad and the Ugly* showed that the cortical answer triggered is similar for all participants. This experiment yielded the practice to measure different movie scenes and to include or exclude scenes from the final version of the movie depending on the registered brain reaction. The same procedure is applied in the music industry where studies carried out with the help of a functional MRI can predict future listening results of new musical segments.

Other areas of use of the results of neuromarketing researches include: selling various groups of goods (cosmetics, food, exclusive products and services etc.), designing various categories of advertising material, websites or organizing online shops. Researchers can measure or assess – as the case may be – broad areas of emotions, interest, trust, loyalty to a product, service or brand, fear or withdrawal.

In 2012 also, a group of researchers led by Yoon (Yoon et al., 2012) argued that neuroscience facilitates better theory development and empirical testing by considering the physiological context and the role of constructs such as social influence on consumer choice and preferences. They also argued that neuroscience can also provide new explanations for different sources of heterogeneity within and across populations. Their research also suggested that neuroscience can explain novel

hypotheses with respect to choices and underlying mechanisms that accord with an understanding of biology, and allow for the use of neural data to make better predictions about consumer behavior.

In Boricean’s paper, “How to Understand the Consumer’s and the Market’s Way of Thinking,” she listed basic techniques used in neuromarketing. They are:

Electroencefalography (EEG), which appeared in 1920, and recorded the electrical potential changes in the brain during various activities. EEG can measure the time required to process a stimulus.

Magnetoencefalografie (MEG), appeared in 1960, measuring the activation and inhibition of nerve cells in the brain. It offers precise information over the time of activation and inhibition.

Computed axial tomography (CAT / CT), appeared in 1970. Generate images of the human organs.

Positron emission tomography (PET), appeared in 1970. Measured the flow of the blood stream and the intensity of metabolism in the brain.

Functional magnetic resonance imaging (fMRI), appeared in 1990. Identifies the brains activity simultaneously in more regions.

Event related optical signal (ECT), appeared in 1990. It registers the direction of the look and indicates the areas where it concentrates.

Two of the most common techniques in neuroscience and consumer decision making are EEG and fMRI. Their characteristics are compared in the following Table.

Table 1
Comparative analysis of EEG and fMRI

Characteristics	EEG	fMRI
Temporal resolution	Very good, records brain activity milliseconds after stimulus exposure; allows for correlating the neural activity with the respective stimuli	Poor - signal delay 2 seconds after stimulus exposure and reaches max. value 10 sec later
Spatial resolution	Poor, captures only subcortical neurons' activity	Very precise - cerebral activity can be accurately localized, even in deep structures
Neural activity localization	Often impossible; records superficial, sub-cortical neuronal activity involved in the frontal lobe's decision making process	Allows for locating deep structures involved in complex processes (emotions, long-term memory encoding)
Other characteristics	Easy to use, portable, non-invasive	Strict protocols, not portable
	Cost of use and equipment rather cheap	Equipment is very expensive
	Recordings are blurred by adjacent movements: eye movements, blinking, cardiac beat, etc.	Considered the “Golden standard” in Neuromarketing research
Types of research	Allows for real-life shopping environment studies: in-store shopping	
	Studies mainly the neural activity of frontal lobes (decision making studies)	

The two main neuroimaging tools used in neuromarketing research are EEG and fMRI. According to the characteristics of the neural activity to be measured, researchers can use either one of the tools or both. For example, short brain activation may not determine a measurable change in the hemodynamic state, therefore may not show up in the fMRI recordings. But it still can be captured through EEG. On the other hand, a strong activity of neural structures situated deep in the brain is not likely to show up on the EEG recording, but it will be picked up by the fMRI scan for sure.

Smidts et al., in their paper, “Advancing consumer neuroscience” (2014) shown that Knutson et al. (2007) demonstrated some of the benefits of using neural methods by having participants engage in a shopping task in the functional MRI (fMRI) scanner. Their work found that adding neural measures to self report ones led to significantly better predictions of subsequent purchasing decisions. Plassmann et al. (2008) used fMRI to study whether information that creates expectations about product quality (e.g., price) influences product perceptions via post-consumption rationalizing or via changes in actual taste perceptions

In 2012, a group of researchers led by Yoon (Yoon et al., 2012) discussed the Functional magnetic resonance imaging or fMRI. fMRI could inform hypotheses about heterogeneity in decision processes. There could be sub-groups of individuals that approach the same decision problem using different strategies, suggesting that these different sub-groups may exhibit different patterns of brain activation. Neuroscientists have been developing techniques that discriminate brain activity in groups of subjects performing different tasks (Poldrack et al., 2009); these techniques could be used to test whether sub-groups of subjects exhibit different brain activations in the same task. This kind of approach is analogous to the market segmentation approaches familiar to consumer researchers.

IV. LITERATURE RELATED TO THE USAGE OF NEUROSCIENCE IN CUSTOMER BEHAVIORS AND DECISION MAKING

4.1 Cola Brains and Wine Tasting

In Pop and Iorga (2012), it was mentioned that specialized literature quotes most frequently a study carried out in 2003 and published in 2004 (McClure et al., 2004; Pispers and Dabrowski, 2011), study which was named “Cola Brains” and which focuses on the research of Read Montague from Baylor College of Medicine in Houston, Texas. The experiment carried out by the team coordinated by Montague scanned the brains of a group of people, with the help of functional magnetic resonance imaging (fMRI), while drinking Coca Cola or Pepsi Cola, stating that the activation of certain areas of the subjects’ brain depended on whether they knew the name of the consumed brand. The experiment highlighted that when the subjects did not know the name of brand they drank they preferred Pepsi. The experiment showed that Coca Cola ranked on a preferential position in the consumers’ subconscious, while the preference for Pepsi was related to taste or experience with the brand

Another study, showing the cooperation between marketing and neurosciences, was carried out by Plassman et al. (2008) focusing on the impact that the value of a product (a bottle of wine in this case) has on the perception regarding the quality of the product. More exactly, the subjects were asked to taste two bottles of wine and to evaluate the quality of the wine, also knowing – among other details – the cost of the bottles of wine. The more expensive wine received a greater grade from the subjects than the cheaper wine. The subjects did not know that, in both cases, they tasted the same wine. Then, via functional magnetic resonance imaging, researchers registered the brain activity of the subjects during the experiment and they noticed that, when tasting the more expensive wine, the brain areas responsible for pleasure and reward presented a higher activity than the other areas, suggesting that participants found more pleasure in the more expensive wine. This reaction was not due to a better taste in wine, but to a factor, which apparently had nothing to do with sensorial experience - the price of the product. It proved that not only psychological reactions can be influenced by external, marketing factors, but also the physiological reactions which, theoretically, were deemed objective and precise.

4.2 Product Packaging

In 2008, Stoll et al. wrote that there is evidence in neuroscience that the brain processes negative visual stimuli in a different manner than positive ones. Their study investigates, whether it is possible to transfer these findings to one specific, often-neglected marketing stimulus, package design.

For this purpose, they measured the brain activity of subjects while they had to make decisions about the attractiveness of certain fast moving consumer good packages. As predicted by consumer neuroscience, we found that attractive and unattractive packages are able to trigger different cortical activity changes.

On the other hand by contrasting unattractive versus attractive packages we found an increased activity in areas of the frontal lobe and insula cortex, regions often associated with processing aversive stimuli such as unfair offers or disgusting pictures. Although, these results are without any doubt preliminary they might explain why attractive packages gain more attention at the point-of-sale and this, in turn, positively influences turnovers of fast moving consumer goods

4.3 Social Stereotypes

In 2009, David M. Amodio, conducted the research of which the goal of the research was to examine the coordination of motivation, perception, and action as they support behavioral regulation in the face of biasing social stereotypes. How do motivational and perceptual processes work together in the context of self-regulation? And how are these processes influenced by personal attitudes? This hypothesis was tested using measures of brain activity while participants regulated their behavioral responses on a racial stereotyping task.

To this end, on-line indices of approach motivation and perceptual attention were recorded using EEG while participants completed Payne's (2001) weapons identification task. EEG was recorded from 27 tin electrodes embedded in a stretch-lycra cap, with a left earlobe reference and forehead ground. Frequencies from DC to 100 Hz were digitized at 2500 Hz. Off-line, EEG was re-referenced to average earlobes and scored for movement artifact.

Motivation and perception have long factored into theories of action control, yet the on-line coordination of these processes has not previously been demonstrated. The results showed that motivation to respond accurately on a stereotype-control task appeared to tune perceptual attention to racial cues, which in turn promoted better action control, particularly for individuals with more positive racial attitudes. It views cognitive and emotional processes as key mechanisms of self-regulation, working in concert to guide goal-driven perception and action. In addition, these findings illustrate the effects of personal attitudes on basic mechanisms of self-regulation.

Among participants with more highly prejudiced attitudes, these self-regulatory processes did not cohere, yielding a lower degree of action control. Hence, the inclusion of individual differences in this study provided a way to further validate the results as evidence for the hypothesized self-regulatory effects. The research suggests that control involves motivational processes that modulate the perception of race and promote the implementation of goal-directed behavior, overriding any influence of stereotypes.

4.4 Code of Ethics in Neuroscience Study

In 2014, Pop et al. addresses the positive and negative aspects that subjects might have to face throughout neuromarketing studies, always bearing in mind the current *Ethical Code of Conduct* issued by the *Neuromarketing Science and Business Association (NMSBA)*. An exploratory online research helped the authors test several hypotheses on ethical issues that neuromarketing companies have to handle. The research was performed on 67 neuromarketing companies from around the world that are members of the NMSBA.

Neuromarketing Science and Business Association has drawn up a Code of Ethics (NMSBA, 2013) which all its members are bound to comply with. One of the rules stipulates that researchers are not

allowed to mislead participants in the study by taking advantage of their ignorance or lack of information in the field of neuroscience. Likewise, companies are not allowed to lure the subjects with marketing promotions following their participation in the study. Moreover, it is imperative that the objectives of the study should be clearly communicated and the recorded data must not be kept more than it is needed to finish the research. The subjects have the right to interrupt anytime their involvement in the study and demand the recorded data to be erased if they feel prejudiced by their content. These measures should prevent the occurrence of *stealth neuromarketing* where the consumers' brain activity is manipulated in such a way that they are not aware of what's going on (Murphy et al., 2008).

The research was conducted by means of an *exploratory survey* among experts from all neuromarketing companies around the world, members of NMSBA. Although not all experts responded, 67 valid answers could be obtained from neuromarketing companies which use neuromarketing techniques. The investigation on the company representatives was carried out through the *survey methodology*, using the *interviewing technique*.

The authors have tested the following hypotheses:

H1: There are significant differences between the relevance of ethical objections coming from clients and those coming from research subjects.

H2: The companies performing neuromarketing studies believe that they do not cause important negative moods (anxiety, fear, cognitive inhibition) to research subjects.

H3: The companies that are part of the study believe it is important to employ ethic specialists for the research design.

H4: The attitude of neuromarketing companies towards ethical issues concerning the participants' protection varies, remaining however an important concern for everybody.

All but H3 is found to be valid. H3 is found to be invalid.

4.5 For-Profit Vs. Non-Profit Use of Neuromarketing

In 2014, Advancements in the development of neuroscience have created the capacity for neuroscientific methods to be applied to marketing science and ultimately marketing practice. As a relatively nascent subfield in marketing, neuromarketing applies neuroscientific methods to study consumer reactions to specific marketing related stimuli. This study analyzes the use of neuromarketing by for-profit and non-profit organizations from an ethical perspective based on consumers' point of view. The implications of consumers' ethical judgments are also explored.

The empirical evidence indicates that consumers perceive the use of neuromarketing-based marketing tactics by for-profit organizations to be unethical, yet the same tactics are considered ethical when non-profit organizations use this tool. The implications of these ethical judgments show the most favorable consumer responses for non-profit organizations that do use neuromarketing based marketing practices and, interestingly, the most unfavorable response for non-profits that forego the use of such practices.

4.6 Impact of graphic cigarette warning labels in smokers

Wang et al. (2015) studied, "Emotional reaction facilitates the brain and behavioural impact of graphic cigarette warning labels in smokers." The study focuses on background Warning labels on cigarette packages. The cigarette packages are an important venue for information about the hazards of smoking. The 2009 US Family Smoking Prevention and Tobacco Control Act mandated replacing the current text-only labels with graphic warning labels. However, labels proposed by the Food and Drug Administration (FDA) were challenged in court by the tobacco companies, who argued successfully that the proposed labels needlessly encroached on their right to free speech, in part because they included images of high emotional salience that indiscriminately frightened rather than informed consumers.

The researchers used functional MRI to examine the effects of graphic warning labels' emotional salience on smokers' brain activity and cognition. Twenty-four smokers viewed a random sequence of blocks of graphic warning labels that have been rated high or low on an 'emotional reaction' scale in previous research.

They found that labels rated high on emotional reaction were better remembered, associated with reduction in the urge to smoke. They concluded that recognition memory and craving are, respectively, correlates of effectiveness of addiction related public health communications and interventions and amygdala activation facilitates the encoding of emotional memories. Thus, their results suggest that emotional reaction to graphic warning labels contributes to their public health impact and may be an integral part of the neural mechanisms underlying their effectiveness.

During the study, the labels were presented in a block design paradigm with six different blocks for each of three stimulus types: HIGH (ie, High ER graphic warning labels), LOW (ie, Low ER graphic warning labels) and CONTROL (ie, scrambled graphic warning labels). Each block contained a sequence of six images, randomly selected from the appropriate set of 12 (HIGH, LOW or CONTROL), and each image appeared for two seconds. Throughout the fMRI task, each image was presented three times. Before and after each block, participants were prompted to answer the question "How much do you want to smoke a cigarette right now?" They used a single axis scroll wheel (FORP; Current Designs Inc, Philadelphia) to indicate their ratings on a visual analogue scale (VAS) with a range from 'not at all' (left=0) to 'extremely' (right=10). The inter-block-intervals were between 10 and 13 s long, with a white crosshair shown in the middle of the screen against a black background. Participants were instructed to attend to each image presented. All stimuli were delivered using the Presentation stimulus presentation package (Neurobehavioral System Inc, Albany, California, USA) and presented through a rear projector system (Epson America) that was viewed through a mirror mounted on the MRI scanner head coil. The duration of the graphic labels fMRI task was 9.3 min.

This study provides the first functional MRI data showing that graphic warning labels that evoke stronger emotional reaction produce greater activation of the brain regions mediating emotional memory, and are associated with better recognition and greater reduction in the urge to smoke, suggesting that stronger emotional arousal elicited by graphic labels is important for their behavioral impact.

4.7 Impacts of destination images on tourists' decision making

In 2015, Osama Sam Al-Kwafi conducted a study on the impact of destination images on tourists' decision making: A technological exploratory study using fMRI. The purpose of this paper is to explore the influence of destination images on tourists' behavioral intention to select a destination for their next vacation. Most of previous studies investigated this relationship by interacting with tourists during their stay in the destination. However, this research examines the impact of destination images before tourists visit a destination, using functional technological-oriented magnetic resonance imaging (fMRI) approach to track brain activation during the decision to select a destination.

The proposed model is adopted from the theory of planned behavior. Study participants divide a set of hotel destination images into two groups: attractive and non-attractive destination images. A blocked design experiment was used during fMRI scan to track brain activities resulting from presenting the two groups of images to participants, and record the strength of their intention to visit the attractive destination.

fMRI enables researchers to measure brain activities directly and determine the exact location of their source. It is considered better than conventional measurement techniques, for example, questionnaire surveys, because it confirms the existence of an internal incident at the neurological level, and produces a better understanding of underlying processes. The fMRI technology is based on placing the participant inside a powerful magnet, where their head is inserted into a radio frequency coil that submits and receives the waves,

During an fMRI scan, the participant is presented with a set of stimuli to record their brain response. The changes in blood oxygenation in the brain that occur in response to neural activity are detected. When a brain area becomes more active, it consumes more oxygen, and to supply this increased demand for oxygen, blood flow to the active region increases. This change in a specific region causes variations in local magnetic properties, leading to small differences in the MRI signal from the blood, depending on the degree of oxygenation. As blood oxygenation varies according to the levels of neural activity, these differences can be used to detect brain activity. This form of MRI is known as blood oxygenation level-dependent imaging. Based on this mechanism, fMRI is able to produce activation maps showing which parts of the brain are involved in a response to a stimulus.

The level of brain activation increased when participants were asked to assess the attractive destination images compared with the level of activation for non-attractive ones. Also, the positive attitude toward an attractive destination led to higher intention to visit that destination.

Although the literature reports considerable research on destination image and its influence on tourists' intention, this is the first exploratory study to use the fMRI technology to investigate tourists' attitude toward destination images.

4.8 Using Neuroscience Measures to Increase In-store Sales

In 2016, a major study of integrated consumer neuroscience tools, a combination of EEG, biometric and facial coding consumer responses was shown to have extremely high explanatory power of in-market sales. The results focused on measures of ad creative, according to a collaborative study between CBS, Nielsen Consumer Neuroscience and Nielsen Catalina Solutions.

The five-month study used multiple neuroscience measures, ad exposure and actual retail purchase data. The results showed meaningful, statistically significant relationships between individual neuroscience measures and in-store sales for the same creative executions.

When used separately, the relationship to sales of the individual metrics ranged from a low of 9% for facial coding to a high of 62% for electroencephalography (EEG). The study showed that the integration of multiple neuroscience measures results in up to 77% explanatory power with in-store sales, providing marketers with unprecedented research potential. Because of this work, Nielsen Consumer Neuroscience is able to calibrate these neuroscience measures for clients' creative to predict in-market success.

In the first formal study using Nielsen Consumer Neuroscience's new Video Ad Explorer solution, the study represents the most comprehensive look at connecting neurometric, biometric and facial coding responses to advertising with what consumers purchase in the store.

Nearly 60 video ads from consumer packaged goods companies, ranging from adult beverages and soft drinks to women's beauty products and diapers, were evaluated in multiple lab locations across the U.S. The incremental sales generated by the specific TV schedules for those same ads were then determined by Nielsen Catalina Solutions using their single source dataset. This dataset included 4.3 million cable set-top-box households and retail purchase behavior from more than 90 million households and is nationally representative.

There are hundreds of different metrics within EEG, core biometrics, and facial coding that can be generated for a single ad based on complex brainwave patterns, heart rate, skin conductance and patterns of facial expression. The study confirmed the importance of multiple measures and gives new insights into the right combination to predict in-store sales.

Ad reactive is complex and difficult to measure, with many points of view, methods and measures, but it also remains central to in-market success. In today's increasingly cluttered landscape, with billions of dollars in advertising at stake, the pressure to break through is immense, and marketers need to get all of the marketing mix elements correct, including distribution, promotion and pricing.

For advertisers, agencies and media partners, these results demonstrate the tools that can effectively evaluate the most critical element of advertising – the ad creative – before reaching the market.

By evaluating creative with measures from EEG, core biometrics, facial coding, eye tracking and self-report, brands are empowered to unlock consumer insights and unravel the complexities of advertising development.

4.9 Other fMRI-studies

Table 2

Overview of fMRI-Studies Related to Marketing Issues [Source: Kenning et al. (2007)]

Author	Field	Question	Results
Erk et al. (2002)	Decisions between different products (automobile),fMRI	Is it possible to find neural correlates to evaluate the attractiveness of a product?	Products which symbolize wealth and status lead to a higher activity in areas which are responsible for rewards.
Deppe et al. (2005a)	Choice between different brands, fMRI	Which neural correlates forms the basis of brand choice?	In a decision-making process, favorite brands reduce analytic processing and lead to increasing attractiveness in fields associated with rewards.
Deppe et al. (2005b)	Influence of brands on credibility judgments, fMRI	Which neural correlates forms the basis of brand information as a frame in decision processes connected?	In situations of doubtful credibility, brand information has an important influence on the decision-making process which results in higher attractiveness in fields which include rewards in decision making.
McClure et al. (2004)	Choice between different brand products and their flavor perception, fMRI	How does brand information influence the flavor perception of sensorily similar products?	Depending on the brand information given to the test person, different areas are activated by the consumption of a soft drink. If the consumer believes the drink to be his favorite brand, areas of rewards are activated.
Klu-Charev et al. (2005)	Advertising effect of celebrities, fMRI	How does the so-called 'Expertise Hook' influence recollection?	The presumed expertise of celebrities leads to an increased activation in memory structure and a significant positive influence on purchase intention.
Plassmann et al. (2006a)	Choice between different service brands, fMRI	How do information asymmetries influence the neural 'favorite brand-effect'?	The favorite brand-effect of an anterior study (Deppe et al., 2005a) could be replicated for decisions under uncertainty. In particular, with uncertain decisions, the favorite brand leads to activation of areas responsible for the integration of rewards into decision making.
Plassmann et al. (2006b)	Choice between different store brands by loyal and disloyal customers, fMRI	What is the neural mechanism behind brand loyalty?	Loyal retail store customers show significant neural activations in brain areas involved in rewards processing when their preferred store brand is for choice as compared to disloyal customers.
Schaefer et al. (2006)	Choice between different car brands, fMRI	The aim of this study was to examine the neural correlates of culturally-based brands.	Results showed activation of single region in the medial prefrontal cortex related to the logos of the culturally familiar brands. The authors interpreted the results as self relevant processing induced by the imagined use of cars with familiar brands and suggest that the prefrontal cortex plays a crucial role for processing culturally-based brands.
Yoon et al. (2006)	Choice between different brands	Are there parallels between human personalities and brand 'personalities'?	Brand personalities and human personalities are processed differently in the brain. Brand personalities are processed in areas of object recognition and human personalities in areas, which are responsible for integrating rewards in decision making.

V. CHALLENGES IN THE STUDY OF NEUROSCIENCE AND CONSUMER BEHAVIORS

Yoon et al. (2012) argued that despite some challenges associated with incorporating neuroscience into research on consumer decision processes, the use of neuroscience paradigms will produce a deeper understanding of decision making that can lead to the development of more effective decision aids and interventions.

Pop et al. also pointed out a key challenge in the 21st century is identifying how to satisfy consumers' needs in the best manner possible, whilst ensuring companies' financial profitability. Scientists play a major role in achieving this goal, as research methods, techniques and tools have continuously evolved. In the last two decades, the development of these instruments has seen an important boost, as neuromarketing methods and techniques added depth and accuracy to traditional studies. The main aim of this paper is to highlight the role and importance of neuromarketing research techniques in the evolution of neurosciences and to explain how these techniques are used in market research. One of the most important challenges for companies who offer neuromarketing services is to stick to ethical principles when performing the investigations.

Given the quick adoption of neuroscientific methods by marketing practitioners, Smidts et al, stated that challenges to consumer neuroscientists involve informing practitioners about the use of proper models and methods as well as encouraging them to engage in evidence-based neuromarketing

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NEUROSCIENCE TOOLS IN SOCIAL SCIENCE LITERATURE

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ABSTRACT

This article reviews the existing studies to assess the neuroscience tools in the field of social science. Based on thirteen experimental studies, we revealed that the ActiveTwo, Hydrocel Geodesic Sensor Net, and EPOC are the most popular EEG in this field. Moreover, we compare these EEGs by investigating several factors (for example, appearance, number of electrodes, usage). Finally, based on the findings, we provide recommendations on the investment in EEG, suggesting that the EPOC is the most appropriate for beginners, especially when conducting non-complicated research, such as gaming, while ActiveTwo is suitable for medium to high experienced researchers.

1. INTRODUCTION

Understanding of mental processes needs to be investigated because researchers believe that consumers' decision-making is related to not only rational, but also emotional processes (Eser, Isin, & Tolon, 2011). Experiments with macaque monkeys unveiled that the neuronal mechanism affects the relationship among recognition, action, and imitation (Ferrari, Bonini, & Foggsi, 2009). Hence, the functions of human brain influence the determining behavior. The first psychological studies, due to a limitation of brain imaging tools, could not explore the activities of the brain efficiently, however, currently, these tools are developed and tailored to different brain regions (Li, 2016).

Although few literature review articles addressed the extent to which neuroscience has been applied to specific fields of parts (for example Hazawawi et al., 2015; Howard-Jones, 2014), to our knowledge, only one review assessed neuroscience tools in information system research studies (Dimoka et al., 2012). This paper aims to extend the assessment of neuroscience tools into social science. We believe this assessment is crucial for academicians who consider incorporating the neuroscience into their research methodologies. To accomplish this objective, this present paper is divided into seven main parts. The first part is an introduction to neuroscience, offering fundamental information about and definition of neuroscience and its development. The second part serves as a guideline for researchers to consider advantages and disadvantages of the classical consumer research and neuroscience. The third part provides a descriptive review of the collected data. A brief explanation about the neuroscience tools and a comparison of four brain imaging tools (functional Magnetic Resonance Imaging, Electroencephalography, Magnetoencephalography and Positron Emission Tomography) are covered. Subsequently, the fourth section discusses the trends of using the Electroencephalography in social science. Next, the fifth section gives recommendation on the investment in Electroencephalography and directions for future research. The sixth section reviews the limitation of this study. Lastly, the conclusion is provided in the final part of the study.

2. NEUROSCIENCE

The neuroscience involves the study of human brain and nervous systems, i.e., how they work and how they respond to stimuli. Neuroscientists attempt to comprehend differences in brain areas and identify their key functions (e.g., cognitive ability, affective ability, positive or negative emotion, and decision making). This is because the expressed behavior depends on coordination of nervous system, muscle system, endocrine glands, and exocrine glands. Furthermore, the neuroscience incorporates numerous disciplines. To illustrate, affective neuroscience research explores a relationship between mood and emotion through neuronal cells of the nervous system (Davidson et al., 2002). Following the fundamentals of neuroscience, neuromarketing or consumer neuroscience is considered a new marketing area, which applies medical tools to comprehend how neural system responds to marketing stimuli (Orzan, Zara, & Purcarea, 2012). This leads to improved marketing strategies. Other neuroscientists have tried to find any biological causes for psychological disorders. With

advancements in technology, neuroscientists can now use various brain imaging techniques to understand how human mind works (Wong, 2016).

3. THE STRENGTHS AND WEAKNESSES OF NEUROSCIENCE APPROACH

Despite its increasing popularity, neuroscience has some weaknesses. Thus, prior to the discussion of the classification of neuroscience techniques, its strengths and weaknesses are evaluated in order for market researchers to be aware of the limit of its potential as a research tool. The strengths and weaknesses of utilizing neuroscience are as follows.

a. Strengths of neuroscience

Human organism is allegorized as a “black box” (Hubert & Kenning, 2008). The concept of neuroscience is to open the black box and find hidden information that may not be obtained from traditional research (Dimoka et al., 2012). In other words, neuroscience is the scientific field or objective method while the traditional research both quantitative and qualitative research is subjective (Lee et al., 2014; Pozharliev et al., 2015). As compared to the traditional research method, neuroscience approaches have three main strengths.

First, among traditional approaches, answers from survey respondents are likely to be biased or unreal. This may reflect the need for social acceptance (Nighswonger & Martin, 1981). However, untruthful responses can be detected using neuroscience tools (e.g., fMRI) (Marchewka et al., 2012), showing greater activation in the prefrontal cortex (Harris, 2010). It is important to note that the influence of a participant on the results in neuroscience is weaker than that in traditional approach (Dimoka et al., 2012). To strengthen the reliability of neuroscience research, Thirion and colleagues (2007) suggested using at least 27 participants (Thirion et al., 2007). Moreover, sample sizes need to be higher to reduce false negative rate or to compare different conditions (Ariely & Berns, 2010; Thirion et al., 2007)

Second, the evaluation of unconscious process (or automatic process) using self-reports is still questionable. The neuroscience has been developed to detect unconscious process, which cannot be observed using traditional approach (Kuan, Zhong, & Chau, 2014). For example, Huang et al. (2015) used website’s logo as stimulus to demonstrate that enjoyment can be successfully evaluated in one second even when participants evaluated the usefulness of the logo. This supports that process of evaluation of enjoyment can occur automatically. Furthermore, Venkatraman et al. (2015) revealed that the neuroscience is stronger compared to traditional approach in predicting the effectiveness of advertising. They reported that the fMRI is the best technique to explain variation in elasticities of advertising compared to six other methods (i.e., traditional method, implicit measures, eye-tracking, EEG, fMRI, and biometrics).

Finally, in neuroscience, activities of brain’s region are decoded while stimuli are being presented. Thus, the neuroscience approach decreases interruptions from participant’s past experience. For this reason, it is currently used new product development, such as food (Ariely & Berns, 2010). Gustatory perception is incorporated in many attributes (e.g., flavor, smell, oral temperature, texture) (Rolls, 2011; Rolls, 2012). Due to this complicated perception process, a participant may explicitly not articulate his or her gustatory perception (Ariely & Berns, 2010). These attributes are perceived in different regions of brain. For example, food’s pleasantness is activated in the orbitofrontal cortex (Rolls, 2011), whereas viscosity of cellulose and fatty vegetable oil is consistently connected with the insula cortex (de Araujo & Rolls, 2004).

b. Weaknesses of neuroscience

There are three major weaknesses in the study of neuroscience. First, the cost of brain imaging tools is much higher compared to that of a traditional method (Dimoka et al., 2012). It covers the fixed costs (e.g., hardware, software) and variable costs (e.g., gel, potassium chloride crystals). Besides, maintenance and replacement costs need to be considered. Some equipment, such as electrodes, needs to be replaced due to degrading with time. Meanwhile, a survey does not require investment in high fixed cost; therefore, most of the cost of the survey comes from fieldwork cost. Second, researchers

who are being acquainted with the traditional data analysis may have to employ different statistical techniques. While the EEG analytical methods are similar to the traditional ones, fMRI requires different techniques. Depending on the research questions and hypotheses, the analysis of the EEG typically relies on the general least square analysis (e.g., Lee et al., 2014), analysis of variance (e.g., Kuan et al., 2014), and repeated measure analysis of variance (e.g., McMahan, Parberry, & Parsons 2015). On the other hand, in fMRI research, advanced statistical software needs to be applied, such as Statistical Parametric Mapping or SPMs that work together with MATLAB® (The Mathworks, Inc., Natick, MA) (see Dimoka, 2012). Note that an appropriate training software may be required. Finally, since ethical issues are one of the most important concerns, some people may be reluctant to disclose private issues. To address this concern, the written informed consent approved by the ethics committee must be obtained before the experiment (researches in USA, The Netherlands, South Korea, for example). However, the traditional methods do not require the consent forms.

4. NEUROSCIENCE TOOLS

The purpose of this section is to explain the neuroscience tools and compare the four brain imaging tools (functional Magnetic Resonance Imaging, Electroencephalography, Magnetoencephalography and Positron Emission Tomography). These tools were selected because they are popular in social sciences. Neuroscience tools are divided into two main types, which are invasive and non-invasive tools. In this paper, we emphasize non-invasive tools because they are used mainly in social science while invasive tools are used in medical field.

The non-invasive tools can be classified into two groups, which are psychophysiological tools and brain imaging tools (See Diagram 1) (Dimoka et al., 2012). The psychological tools are tools for tracking or measuring activities caused by pupils (Eye Tracking), soles of feet or palms of hands (Skin Conductive Response), two facial muscles (Facial Electromyography), and heart (Electrocardiogram); whereas, the brain imaging tools are tools for measuring responses that are generated by brain or neural activities. They are functional Magnetic Resonance Imaging (fMRI), Electroencephalography (EEG), Magnetoencephalography (MEG), and Positron Emission Tomography (PET). They depict changes in the level of oxygenation in blood, electric currents at scalp, magnetic fields, and neurochemical of metabolic activity, respectively. Solnais and colleagues tracked the development of neuroscience tools based on thirty-four articles from peer-reviewed journal in Proquest and Scopus published in 2001-2012 period (Solnais et al., 2013). They found that the fMRI is the most frequently used technique in approximately 70% of the neuroscience studies, followed by the EEG at 25% and the MEG at 6%. They anticipated that both the fMRI and EEG would gain more popularity in social science research.

a. fMRI

A demand for oxygen in brain depends on activities in brain, in that the greater brain areas are activated, the greater oxygen is consumed. An increase in the level of oxygen in blood flow is associated with an increase in neuron responses, hence, the level of oxygen is able to be a proxy for activated brain region. For this reason, the fMRI, or also known as the blood-oxygen-level dependent technique, was developed and utilized to measure changes in the level of oxygen in blood, which is generated by neural responses (Ogawa et al., 1990). This reflects a working of magnetic field to modify alignment of molecules of red blood cells (Li, 2016). The degree of alignment of molecules varies according to the strength of magnetic field. This alignment returns to normal when removing the magnetic field. Hemoglobin in red blood cells changes as a function of delivering oxygen. Hemoglobin that carries oxygen (oxygenated blood), i.e., diamagnetic atoms, performs differently in the magnetic field compared to hemoglobin that does not carry oxygen (deoxygenated blood), i.e., paramagnetic atoms. Therefore, the fMRI provides the ratio of oxygenated blood to deoxygenated blood in the brain (Li, 2016).

It provides superior spatial resolution (2 mm³ voxels or 3D space), suggesting deep regions of brain that can be monitored (Dimoka et al., 2012). In general, deep regions are involved in positive and negative emotions. For example, Dimoka (2010) employed the fMRI to explore the areas of brain that are activated under the conditions of trust and distrust. She revealed that trust and distrust should be

separate construct since trust is associated with caudate nucleus and putamen by comparing with expected reward with evaluating rewards (Hsu et al., 2005) while the amygdala, which is “an almond-shaped [area] in the medial temporal lobe” (LeDoux & Schiller, 2009, pp.44), is linked to distrust (Dimoka, 2010). This is consistent with the previous literature. The amygdala is involved in aversive responses (Rilling & Sanfey, 2011), fear, and negative moods (McClure, York, & Montague, 2004). These areas are related to emotion, which influences cognitive decision making (rationalizing) and subsequently affects actual behaviors (Dimoka, 2010).

A major drawback of the fMRI is that it is not portable and its cost is very high, approximately \$200-500 per hour (Dimoka et al., 2012). In addition, it provides smaller temporal resolution (2-3 seconds) compared to EEG (see in Section 4.2), resulting in a delayed recording of processing of neurons, which may affect the experiments that use rapid marketing stimuli.

b. EEG

In the experiment of EEG, a participant selects a stimulus presented on a computer screen rather than being inserted into a MRI scanner, as in fMRI experiment. Therefore, s/he feels more comfortable with the EEG than the fMRI (fixing on a narrow area) (Boksem & Smidts, 2015). Furthermore, the fMRI is not portable. In contrast, some EEG is portable (e.g., EPOC) due to light weight. Therefore, it is applied to investigate tasks outside a laboratory (e.g., while a participant is shopping at a supermarket). While the fMRI captures the change in the level of oxygen in blood, the EEG detects electric currents via electrodes attached to scalp using gel, saline, electrolyte in order to amplify the signal during the transmission of information among neuronal cells (Li, 2016). Due to the electrodes being attached to scalp, a deeper brain area is quite difficult to investigate because of low spatial resolution. In other words, the capability of EEG to identify brain region is limited.

However, the EEG offers high temporal resolution or rapid subject responses;

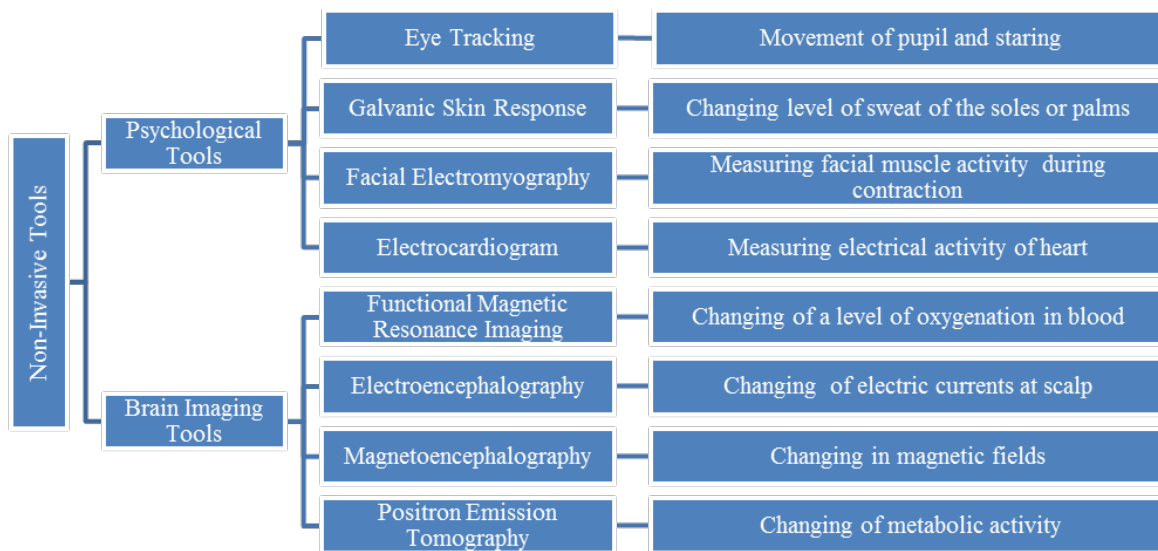


Diagram 1. Neuroscience Tools. Adapted from Dimoka et al., 2012

therefore, it is generally employed to predict consumer product choices (Boksem & Smidts, 2015) and brands (Pozharliev et al., 2015). The cost of EEG during experiment is approximately 2-5 times cheaper compared to the cost of fMRI (\$100-200 per hour) (Dimoka et al., 2012).

c. MEG

The MEG is a helmet-shaped device that is used in a laboratory to record the change in the magnetic field, which is generated by brain activities. This change is detected by very sensitive sensors, called ‘superconducting quantum interference devices’ (SQUIDS), since the magnetic field is very tiny. The MEG records magnetic field while the EEG measures electric currents. The results from magnetic field are more accurate compared to those from electric currents in terms of area of brain. That is, the MEG offers higher spatial resolution compared to the EEG but still lower compared to the fMRI. Importantly, it provides high temporal resolution similar to the EEG. The cost of MEG during experiment is approximately \$200-400 per hour (Dimoka et al., 2012). Moreover, it is employed to predict consumer product choices as well as investigate gender and culture difference (Braeutigam et al., 2004; Vecchiato et al., 2011).

d. PET

The PET is a large tube similar to the fMRI. PET scanner is used to capture the change in the metabolic activities (e.g., a level of glucose in blood flow) using radioactive isotope. Its advantages (i.e., high spatial resolution) and disadvantages (i.e., low temporal resolution, less comfortable when fixing on a narrow tube, and high cost) are similar to those of the fMRI. Since the cost of PET during experiment is very high (\$200-500 per hour) (Dimoka et al., 2012), it is generally used to diagnose disease (e.g. Alzheimer's disease).

5. THE EEG USAGE TRENDS IN SOCIAL SCIENCE

Although the fMRI and EEG are the most popular methods in social science, it is much cheaper to invest in EEG compared to the fMRI. Furthermore, these two techniques provide comparable results. This section aims to investigate the EEG usage trends in social science.

a. Data collection

We searched for peer-reviewed articles published between 2012 and 2016 using Ebsco Single Search, which incorporates twenty-six databases (for example, Academic Search Complete, H.W. Wilson, Business Source Complete, Computers and Applied Sciences and EBSCOhost). We specified the key words “EEG” AND (“marketing” OR “social science”). Initially, we found sixty-five articles that were written in English. We then screened these studies, focusing on experimental studies providing information on EEG manufacturers in order to access more information from their websites and other technical information, such as the number of channels or electrodes, which would allow us to compare suggest proper equipment. These criteria resulted in twelve articles and thirteen experiments.

b. Findings

Although there are many EEGs, few are used in academic research. Specifically, we identified only five EEGs in social science research studies, including ActiveTwo (Biosemi), Hydrocel Geodesic Sensor Net (HGSN) (Electrical Geodesics Incorporate), EPOC (Emotiv), Electrode Arrays Cap (EAC) (Electrode Arrays), and WEEG32 (Laxtha). Eleven out of the twelve articles were published in the first quartile (Q1), while the rest were published in the second quartile (Q2). Only Q1 and Q2 journals were employed because this article was an initial report of our findings. Other journals will be added in our analysis later.

The ActiveTwo, Hydrocel Geodesic Sensor Net, and EPOC are the top three most popular techniques used in business and management (Bus & Mgt), computer science (Com Sci), and psychology (Psy) research. We identified four, three, and three studies, respectively, that have used these EEGs. For Electrode Arrays Cap and WEEG32, each was used and published only in one article (See Table 1).

The conductance function is inversely related to the impedance function, indicating that higher conductance is associated with lower impedance. The data quality of EEG recording is reflected by the signal-to-noise ratio and impedance electrodes. Therefore, high data quality is obtained when signal-to-noise ratio is high and electrode impedance is low (Kappenman & Luck, 2010). Gel (ActiveTwo), saline (EPOC), and electrolyte (Hydrocel Geodesic Sensor Net) are employed to fill the

gap between electrodes and scalp and provide consistency of electrical connection by reducing electrode impedance (Hairston et al., 2014).

Table 1
Number of articles that were published in each area

Area	EEG					Total
	ActiveTwo	HGSN	EPOC	EAC	WEEG32	
Bus & Mgt	3	2	-	-	1	6
Com Sci	-	1	3	1	-	5
Psy	1	-	-	-	-	1
Total	4	3	3	1	1	12

c. Comparison among ActiveTwo, Hydrocel Geodesic Sensor Net and EPOC

This section presents the findings on similarities and differences in appearance, usages, prices, and results of the ActiveTwo, Hydrocel Geodesic Sensor Net, and EPOC to suggest the most feasible EEG to be used in social science research.

The advantages of the ActiveTwo and Hydrocel Geodesic Sensor Net are that the cap can be tailored to various head sizes and shapes; therefore, each electrode can be adjusted closely to the positions according to the international system (e.g., 10-20, 10-10). This helps the researcher minimize the distance between real position and the position placed by electrodes (Hairston et al., 2014). However, several sizes of caps are required, increasing the cost. The EPOC cannot adjust a size of head as the ActiveTwo and Hydrocel Geodesic Sensor Net can. However, the researcher can adjust it by tailoring it to the participant's shape of head, improving the accuracy of position of electrodes (Hairston et al., 2014). Hairston et al. (2014) reported that positioning error in occipital area is higher for EPOC compared to the ActiveTwo.

Table 2
Comparisons for three EEGs

Topic	EEG		
	Active Two	HGSN	EPOC
Wireless	No	No	Yes
Weight	170 g	200g	125 g
Electrodes	8 up to 256	32 up to 256	14
Solution	Gel	Electrolyte	Saline
Price (\$)*	23,400 (32)	72,580 (32)	3,007.55 (14)

*The number in parentheses refers to the numbers of electrodes

*The price includes software.

Although ActiveTwo (170g) and Hydrocel Geodesic Sensor Net (200g) are heavier compared to the EPOC (125g); therefore, participants tolerate the formers more compared to the latter. This is because the formers comprise a cap, the weight of which is distributed over the participant's head while the EPOC on the other hand presses on specific positions (Hairston et al., 2014). Thereby, the participants may feel pain in the positions where electrodes of the EPOC are placed (Nijboer et al., 2015). Nevertheless, setting up and cleaning the ActiveTwo and Hydrocel Geodesic Sensor Net is more time-consuming compared to the EPOC (Hairston et al., 2014; Nijboer et al., 2015). The Hydrocel Geodesic Sensor Net and the EPOC employ the electrolyte that contains potassium chloride crystals and saline as the main ingredients, respectively, while the ActiveTwo uses the conductive gel. A participant who uses the Hydrocel Geodesic Sensor Net or the EPOC is likely to feel comfortable rather than the one who uses the ActiveTwo, since potassium chloride solution or saline is similar to sweat and is less thick compared to the conductive gel. That is, after the gel is dry, the participant may feel itchy during the experiment (Hairston et al., 2014). Even though the cost of EPOC is lower compared to others EEG, it cannot measure electrical signal at midline area. According to our evidences, the EPOC is popularly employed in the area of computer sciences and management information system. Duvinage et al. (2013) suggested that it is suitable for studying games and communication systems. This is in line with research of Nijboer et al. (2015) who suggested that it is utilizable for fun and entertainment purpose. This is because they are non-critical program.

6. DISCUSSION AND DIRECTIONS FOR FUTURE RESEARCH

Our present research delivers some insights for business schools and research agencies, including companies that do in-house research who are making a decision to invest in EEG to conduct research in social sciences. For the beginners who are stepping forward in area of neuroscience, we would recommend investing in EPOC. Three main reasons support our recommendations, as follows:

First, the usability of EPOC is quite easier than that of the ActiveTwo and Hydrocel Geodesic Sensor Net, since the procedures pertaining to the preparation of the electrodes are less complicated and less time-consuming compared to the other techniques. In addition, employing EPOC tends to be more convenient compared to other methods that require training. Second, the cost of investment of the EPOC is approximately 8-24 times cheaper compared to other methods. Finally, it is broadly accepted and performs well in uncomplicated environments, such as communication and game (Duvinage et al., 2013). However, the EPOC also has limitations. Greater sensor density is associated with greater accuracy of localization of brain (Song et al., 2015). Since EPOC uses only fourteen electrodes with no electrodes in midline, the accuracy of localization of EPOC is likely to be lower compared to other techniques.

For experts and experienced researchers, we would recommend investing in the ActiveTwo. Obviously, research by Nijboer et al., (2015) revealed that the ActiveTwo with 32-channels performs the best with 88.5% of accuracy while accuracy of the g.Sahara and EPOC is approximately equal at 62.7% and 61.7%, respectively. Therefore, to achieve high accuracy and effectiveness, gel is an optimum medium. Nonetheless, investment in EEG needs to be traded-off against expected benefits.

We underscore the importance of extending the neuroscience into social science. To advance our understanding of behavioral intention in distinct contexts (e.g., clothes, banking), the neuroscience tools should be used to examine a wide range of variables, for example, perceived risk (high, low), personality traits, and culture (west, east), since the traditional approaches have been primarily used to investigate the influence of such variables on behavioral intention, adoption, and usage. However, the neuroscience tools still yield results that may or may not be consistent with the findings that emerge using traditional approach. For this reason, the researchers aimed to fill the knowledge gap by comparing the traditional and neuroscience research tools.

7. LIMITATION

Since only articles in Ebsco were used in our analysis, the generalization of our findings may be limited. Thus, articles published in other databases (such as Scopus, Journal Impact Factors and ISI) should be reviewed in order to increase the study's reliability and generalizability.

8. CONCLUSION

This article aimed to review the neuroscience tools in the field of social science. The fMRI and EEG are the most popular tools in this field. In this paper, we focused on the EEG. According to thirteen experimental studies, we found that the ActiveTwo, Hydrocel Geodesic Sensor Net, and EPOC are the most popular EEG methods. We compared these EEGs in terms of several factors (appearance, weight, number of electrodes, usage, and price). We recommend EPOC as the most appropriate method for beginners, especially when conducting non-critical research, such as game and fun purpose, while ActiveTwo is proper for experts and experienced researchers.

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ACTION RESEARCH IN BUSINESS AND MANAGEMENT

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ABSTRACT

One of the major problems in business and management is that there is a large gap between how academic people conduct research and what practitioners actually do. Most faculty members in the university need to conduct basic research to publish in the top journals in their fields; however, practitioners such as CEOs, CFOs, and CIOs do not read academic journals. This paper reviews the use of the action research method in business and management. Action research has a potential to bridge the gap between research and practitioners. This paper discusses the characteristics of action research, its scientific merits, the process of action research, the elements of action research, how action research can be conducted, the role of the researcher in action research, and examples of action research in business, management, and information systems. The findings from the literature indicate that most action research conducted in business and management follows a five-step model, including problem diagnosis, action planning, intervention, evaluation, and the specification of learning outcomes. Action research can solve a company's problems while generating new theory or confirming existing theory. The paper concludes that action research can enhance the practical relevance of business and management research.

INTRODUCTION TO ACTION RESEARCH

Action research was initially introduced by the work of Lewin (Lewin, 1947a, 1947b) and has become generally accepted as a method for researching information systems (Baskerville & Myers, 2004a). According to Galliers (2003), the goal of information system research is to improve practice through research. Action research can provide practical relevance for IS research. The goal of action research is to solve present practical problems while extending scientific knowledge (Baskerville & Myers, 2004a). Action research is different from other research methods because it not only seeks to study organizational phenomena but also seeks to create organizational change and to study the process simultaneously (Baburoglu & Ravn, 1992).

Action research combines both theory and practice to stimulate changes in organizations (Avison, Lau, Myers, & Nielsen, 1999). In addition, action research is an iterative process involving collaboration between researchers and practitioners who must work together in a cycle of activities that include diagnosing, action planning, action taking, evaluating, and specific learning (Avison et al., 1999). Moreover, action research allows researchers to experiment and to reflect on the effect of their intervention and the implications of their theories (Avison et al., 1999). Susman and Evered (1978) summarized the characteristics of action research as can be seen in the following table.

Characteristics of Action Research (Susman & Evered, 1978, pp. 589-590)

Characteristics	Explanation
Future Oriented	Action research deals with the practical concern of an organization, aiming to create a better future for an organization.
Collaborative	Action research requires collaboration between the researcher and the client system.
Implies system development	Action research aims to improve the system. The goal here is to create problem-solving processes in the system and to generate new knowledge about these methods.
Generates theory rounded in action	Theories in AR is created through the process of implementing changes in organizations.

Agnostic	The theory and knowledge in action research are the result of action and can be reexamined in later study
Situational	The theory from action research depends largely on its organizational context.

Peter Checkland, a professor at Lancaster University, pointed out that business analysts should apply their skills and knowledge to ill-defined problems, which include any difficulties related to organizations and people. Failing to understand these issues can lead to the overall failure of information systems (Checkland, 1981). In action research, researchers need to apply a theory with practitioners in real world contexts, gain feedback from the process and experience, and develop or modify the theory as a result of the feedback from the intervention (Avison et al., 1999). Each step in action research cycle is iterative, which means that researchers and practitioners have to go back and forth between the processes (Avison et al., 1999). In conclusion, action research might be the ideal solution for business and management research because it can address complex real world problems and the immediate concerns of practitioners (Avison et al., 1999).

There are two main processes in action research (Baskerville & Myers, 2004a). First, there is the diagnostic process, in which the researcher collaborates with the subjects of the research domain. Second, there is the therapeutic process, which focuses on collaborative change in organizations. In this process, changes are initiated and the researcher studies the effects and the results of these changes (Blum, 1955). Theorizing involves both the researcher and the participating client (Baskerville & Myers, 2004a). In conclusion, action research promises to bridge the gap between researchers and practitioners (Baskerville & Myers, 2004a).

SCIENTIFIC MERITS OF ACTION RESEARCH

Coughlan and Coughlan (2002) defined action research as a method that seeks to take an action and, at the same time, acquire scientific knowledge and develop a theory about that action (Coughlan & Coughlan, 2002). Action research is often criticized for its lack of methodological rigor (Cohen & Manion, 1980). Susman and Evered (1978) argued that the merits of this method are not compatible with the criteria for scientific explanation in positivist science because action research is situational and cannot produce law-like generalizations. Coughlan and Coughlan (2002) summarized the difference between action research and traditional positivist research according to the following table.

Comparison of Action Research and Positivist Research (Coughlan & Coughlan, 2002, p. 224)

Characteristics	Action Research	Positivist Research
Objective	<ul style="list-style-type: none"> • Knowledge in action • Theory building and testing in action 	<ul style="list-style-type: none"> • Universal knowledge • Theory building and testing
Type of knowledge acquired	<ul style="list-style-type: none"> • Particular • Situational • Praxis 	<ul style="list-style-type: none"> • Universal • Covering law
Nature of data validation	<ul style="list-style-type: none"> • Contextually embedded • Experimental 	<ul style="list-style-type: none"> • Context free • Logic, Measurement • Consistency of prediction and control
The role of the researcher	<ul style="list-style-type: none"> • Actor • Agent of change 	<ul style="list-style-type: none"> • Observer
The researcher's relationship to setting	<ul style="list-style-type: none"> • Immersed 	<ul style="list-style-type: none"> • Detached and neutral

Susman and Evered (1978) posited that action research has its own merits that are different from positivist science, which can be summarized as in the following table.

Comparisons of Positivist Science and Action Research (Susman & Evered, 1978, p. 600)

Characteristics	Positivist Science	Action Research
Value position	Methods are value neutral	Methods develop social systems and release human potential
Time perspective	Observation of the present	Observation of the processes that are taking place from the past to the present
Relationship with units	Detached spectator, client system members are objects to study	Client system members are self-reflective subjects with whom one can collaborate
Treatment of units studied	Cases are of interest only as representatives of populations	Cases can be sufficient sources of knowledge
Language for describing units	Denotative, observational	Connotative, metaphorical
Basis for assuming existence of units	Exist independently of human beings	Human artifacts for human purposes
Epistemological aims	Prediction of events from propositions arranged hierarchically	Development of guides for taking actions with desired outcomes
Strategy for growth of knowledge	Induction and deduction	Conjecturing, creating settings for learning and modeling of behavior
Criteria for confirmation	Logical consistency, prediction, and control	Evaluating whether actions produce intended consequences
Basis for generalization	Broad, universal, and free of context	Narrow, situational, and bound by context

Susman and Evered (1978) argued that positivist research is not an appropriate method for studying organizations because it undermines the values of organizational members and the context in which they are used. Susman and Evered (1978) proposed action research as a method of generating theory and knowledge that can solve real world problems.

Davisson et al. (2004) mentioned that action research can bridge the gap between academic scholars and practitioners by integrating theory and practice from the result of interventions (R. M. Davison, Martinsons, & Kock, 2004). This characteristic is difficult to find in positivist research since the researcher focuses on producing or testing knowledge and theory rather than solving real world problems.

Checkland and Holwell (1998) discussed the idea that action research lacks the repeatability of results in experiments carried out by researchers in natural science. However, they argue that action research can be valid if it can be recoverable by interested outsiders (Checkland & Holwell, 1998). Because action research cannot produce law-like generalizations, like positivist research, from a single situation, recoverability is the criterion for scrutiny (Checkland & Holwell, 1998).

When Action Research is Appropriate

Action research is suitable when the research question related to the study of the process and the outcomes of action that is implemented in organizations. The research attempts to understand how and why their action or intervention can change or improve any aspects of a system and to understand the process of change or improvement in order to learn from that action process (Coughlan & Coghlan, 2002).

The Role of the Action Researcher

In general, action researchers are outside agents that act as “facilitators of the action and reflection within an organization” (Coughlan & Coughlan, 2002, p. 227). In other words, the researchers act as consultants to help clients investigate their problems and issues and build and implement solutions to the problems or issues. When action researchers take part in research, they are , at the same time, participating in their own experiential learning cycle activities through the process of experiencing, reflecting, interpreting, and taking action (Kolb, 1984). In addition, the action researcher has to be good at journal keeping; action researchers can use a journal to note their observations and experience (Coughlan & Coughlan, 2002).

How Theory Can be Generated through Action Research

Action research is organizational or situational specific and does not seek to build universal laws or knowledge. Nevertheless, it is important to apply? The findings to other comparable situations and to identify how action research can be applied to other similar organizations, groups, or cultures. Edden and Huxham (1996) proposed that action research can generate emergent theory, where the theory expands from a synthesis of that which emerges from the data and that which emerges from the practice of the theory which guided the intervention. Action research addresses organization problems with theory that is formed from the conceptualization of experience in a way that is intended to be meaningful to others.

The Process of Action Research

Baskerville and Myers (2004) have suggested that action research can be viewed as a cyclical process with five phases: diagnosing, action planning, action taking, evaluating, and specifying learning. They argued that all five phases are necessary for a comprehensive definition of action research. In Suman and Evered’s model, the first phase, called diagnosing, involves the identification of primary problems that are to be addressed within the host organization. The second phase, called action planning, specifies the organizational changes or interventions that should be taken to solve the problems. These planned actions are guided by the theoretical frameworks. The third phase, called action taking, executes the planned actions. The fourth phase is called evaluating and includes analyzing whether the planned actions achieve their intended goals. The last phase, specifying learning, specifies what was learnt during the research project. This is when the knowledge acquired is applied in the organization and communicated to the academic community. It may well lead to a change in the theoretical framework or model used in the second phase. This last phase may lead to the start of a new action research cycle, especially if the action research project was successful (Baskerville & Myers, 2004b).

Data Collection and Data Analysis in Action Research

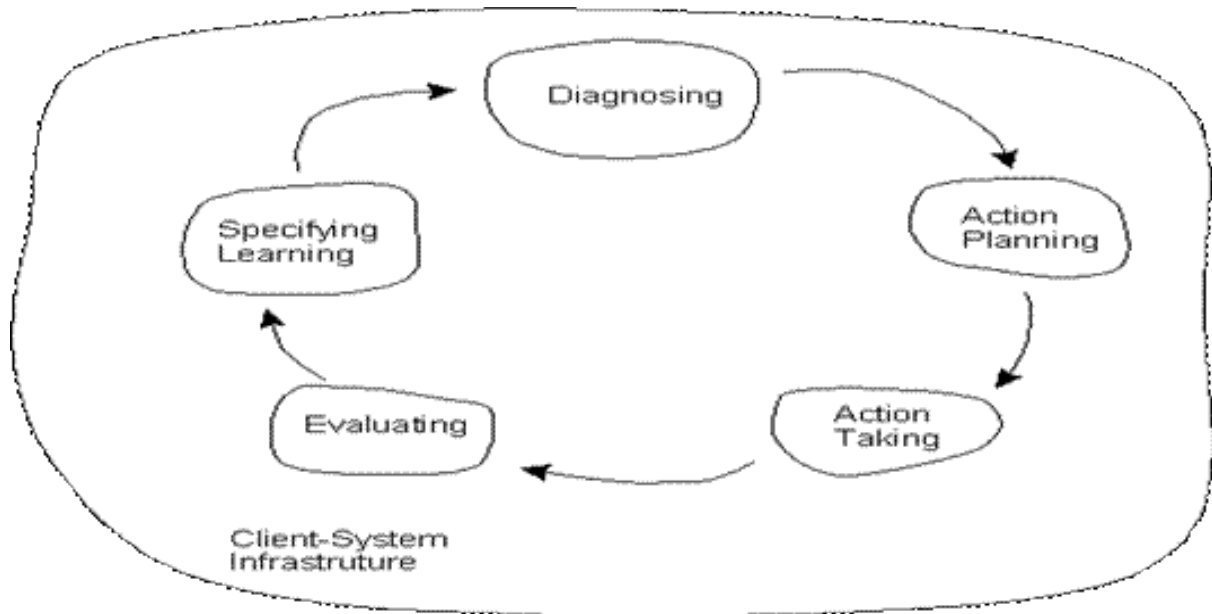
Data collection in action research usually appears in two phrases, which are diagnosis and evaluation. Data collection can include in-depth interviews, focus groups, participant observation, and document analysis. The goal of data collection in the diagnostic phrase is to investigate and identify organizational problems. The goal of data collection during the evaluation phrase is to assess whether the interventions or changes can solve the problems identified during diagnostic phrase. Data analysis should go through 3 steps: data reduction, data display, and conclusion drawing and verification. Data reduction involves a coding process, which is the process of condensing the data that appear in field notes or transcriptions into codes. Data display involves the process of presenting the data into a visual format. The display can be in the forms of a matrix or network diagrams. Last, conclusion drawing and verification involve noting patterns, themes, and explanations (Miles, Huberman, & Saldana, 2014).

How Action Research is Carried out

The primary goal of action research is to solve present practical problems while expanding scientific knowledge (Baskerville & Myers, 2004a). In almost every action research, there are three important processes. The first process involves the diagnostic process concerning a collaborative analysis of the organizational situation. The second process is a therapeutic one concerning collaborative change. In this second process, changes need to be initiated, and the researcher studies the consequence of these

changes (Blum, 1955). The third step involves theorizing about the lessons learned from the changing process.

The most famous framework of action research implementation was introduced by Susman and Evered (1978), as can be seen in the following diagram.



Action research can be broken down into five phrases.

1. Diagnosing

This is the first step in any action research. The main purpose is to identify the organizational or situational problems. In this phase, the researcher should develop theoretical assumptions about the nature of the organization and its problem domain. Data collection can involve interviews, observations, and document analysis, surveys, and focus groups.

2. Action Planning

In this phase, the researchers and practitioners specify organizational actions that should relieve or improve problems indicated during the diagnosing phrase. Alternative courses of action to solve problems need to be introduced, and the researcher needs to work closely with the practitioners.

3. Action Taking

The planned action is implemented in the form of intervention. Examples of interventions can be training, policy changes, technology implementation, etc. The researcher should document all details related to the implementation. Observation is the main method of the data collection during this phrase.

4. Evaluating

The outcomes of the intervention are evaluated. Evaluation involves determining whether the theoretical effects of the action through implementation (action) are recognized, and whether these effects relieve the problems indicated during the diagnosing phase. Data collection can include interviews, observations, and document analysis, surveys, and focus groups. The data from the evaluating phase can be compared with the data gathered during diagnosing phase in order to assess any improvement from the intervention.

5. Specifying Learning

The researcher specifies the knowledge gained during the process, and the issues related to the intervention need to be analyzed. The researcher needs to determine whether the activities and

interventions are successful in terms of solving the problems or not. Theories can be generated based on the lessons learned from the process.

ACTION RESEARCH IN BUSINESS AND MANAGEMENT

Action research has been generally accepted as a valid research approach in Information research (Avison et al., 1999; Baskerville & Myers, 2004a; Checkland & Holwell, 1998). This section emphasizes the process of action research in business and management.

Seal, Cullen, Dunlop, Berry, and Ahmed (1999) performed an action research study in order to improve supply chain performance. The authors identified issues in supply chain management and create intervention in the form of information sharing among companies in the supply chain. The findings indicated that the sharing of cost information can contribute to organizational learning capability among companies in the supply chain. The research conducted several meetings, visits, and interviews over an 18 month period with executives of companies in the supply chain (Seal, Cullen, Dunlop, Berry, & Ahmed, 1999).

Further, O'Leary, Rao, and Perry (2004) conducted an action research study by developing a framework for using Internet and database marketing to help marketers improve customer relationship management. The authors utilized a cyclical approach that followed a four-step process of planning, acting, observing, and reflecting on the results based on the Internet and database marketing project. The authors indicated that action research provided opportunities to build a new theory in marketing research, and the results of action research can be a solution for an organization (O'Leary, Rao, & Perry, 2004).

In another study, Luscher and Lewis (2008) conducted an action research project at the Danish Lego company. The intervention in the study was in the form of a company restructure. The intervention was created based on the theory of managerial sense making and organizational change. The restructuring involved the creation of double loop learning and the collaborative process of sense making. The objective of this study was to test theories of sense making an organizational change (Lüscher & Lewis, 2008).

Puhakainen and Siponen (2010) conducted action research in order to improve employees' compliance through information systems security. The researchers proposed a training program as the main intervention. The intervention was developed based on universal constructive instructional theory and the elaboration likelihood model. The learning outcome suggested that information security training can activate and motivate learners regarding the systematic cognitive processing of the information they receive during training (Puhakainen & Siponen, 2010).

Meissonier et al. (2010) conducted action research on users' resistance to information technology by investigating ERP adoption at one of the broadcasting companies in France. The action research was conducted during three periods. The result indicated that user resistance should be encourage to solve conflict directly (Meissonier & Houze, 2010).

Huxham and Vangen (200) conducted action research in the form of collaborative leadership. The authors conducted their research in the United Kingdom. The action included collaboration among three partnerships in order to solve social, economic, and health problems in communities. The authors found that the single mindedness of leadership contributes largely to the success of the collaboration process.

Validity of Action Research

Checkland and Holwell (1998) proposed the nature and validity of action research. The authors discussed several interesting ideas on how the action researcher can respond to common criticisms from the point of view of other research paradigms (Checkland & Holwell, 1998):

Criticisms	Response
What exactly is being researched?	The research theme can replace hypotheses in action research. The objective of action research is not to test theory but rather to generate theory in the form of learning outcomes.
Who is the researcher? Who is the participant?	In action research, the role of the researcher and participant can be merged and can evolve over the course of the project. The researcher acts as a consultant in action research. The participants include organizations and communities that have problems to be solved.
How do we know when to stop?	Unlike experimental design, the process of action research is the process of identifying learning outcomes. The researcher can stop once the project objective is achieved or the learning outcome is identified.
How can findings be generalized to other contexts?	This problem also exists in other types of research. The purpose of the research is to identify the learning outcomes (lessons learned) according to a particular context. The researcher should emphasize the ability to recover the steps taken in the (original) action research rather than generalize the findings to other contexts. In other words, the findings from action research can be generalized to theories instead of a population.

Limitations of Action Research

The main criticism of action research (and other forms of qualitative study) is that it is not representative and that findings cannot be applied in a general way to other populations (Checkland & Holwell, 1998; Coughlan & Coughlan, 2002; Yin, 1994). However, Yin (1994) proposed the idea that the purpose of qualitative research is to generalize findings to theory instead of any particular population.

Another limitation attributed to action research concerns its reliability. The issue of reliability relates to whether or not the research process is consistent over time across both researchers and research methods (Miles & Huberman, 1994). Action research depends largely on the perception, experience, and analytical ability of the single researcher. Checkland and Holwell (1998) also have asserted that the validity of action research depends on its recoverability. This does not mean that the research needs to bear the potential for being replicated in the way a laboratory experiment does, but rather that the research process must be recoverable by other interested outsiders. Another criticism is related to lack of control. Unlike a traditional lab experiment, an action researcher does not have control over the factors related to the study.

CONCLUSION

Action research has the potential to bridge the gap between academic study and practice because it promises to solve organizational problems and to generate or test theory (learning outcomes) at the same time. Action research provides practical significance because the study is conducted and applied in a natural setting, and therefore can have an impact on life situations and solutions. From the review of the literature, I have found that the most common use of action research is the five-step process, which includes problem diagnosis, action planning, intervention, evaluation, and specification of learning outcomes (R. Davison & Martisons, 2002; Lindgren, Henfridsson, & Schultze, 2004; Susman & Evered, 1978). Many business school professors are often hired as consultants. They should use this opportunity as a consultant to conduct action research.

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EMBEDDING ETHICAL LEADERSHIP: TRANSFORMING MANAGEMENT EDUCATION TOWARD ETHIC AND SUSTAINABILITY

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ABSTRACT

Coping with a rapid change in business environment and responding a sharpening critique of conventional university-based business school education, I argue that management education need to redefine itself on its fundamental role and mission. Otherwise, the graduated one who, one day will become a leader, will confuse on their core purpose of doing business. To overcome the so-called apocalypse of the efficiency and profitability, the paper therefore asks how our education of future leaders can ensure a high level of “ethical culture” through individual, process, and their interaction of individual predispositions and context. This paper attempt to assist scholar revisit assumptions related to one of the foremost responsibilities of leaders of articulating purpose based on moral identity and ethical leadership.

INTRODUCTION

Contemporary management educations operate in environments characterized by volatile change and high complexity. As a consequence, the development and education of future leaders who are able to navigate and perform effectively and ethically in these current dynamic and multifaceted environments has become a top priority and challenge for business school. Empirically, 25% of the \$50 billion that organizations spend annually on learning and development is targeted at leadership development (O’Leonard, 2010), and the number of leadership education is expected to increase in this coming future. Moreover, recent research supported that executive around the world prioritized leadership development as the most important essential human resource program for organizations.

While most management education focus more on management of knowledge to improve leader performance, to innovate, and to create sustainable organizational growth, particularly on how well they can lead and motivate others to achieve organizational goal. Few focus on how well they train young leaders not only developing acquisition, assimilation, transformation, and exploitation capability, but also how ethical they should perform and deploy. These critical challenges needs an absolute answers to ensure an adequate role of business schools on embedding ethical leadership across all levels (Bennis & O’Toole, 2005; Dyer, Gregerson, & Christensen, 2011).

To solve the recent global financial and economic crisis, that occurred from unethical organizational behaviors that have been attributed to the effects of individual “bad apples” (Hannah, Avolio, & May, 2011). This evidence may consider as a crisis of management that “management education appears to be one of a significance part” (Mintzberg, 2009). In the present research, I examined antecedents and the development of ethical leadership by exploring whether one source of motivation for leader to perform ethical behavior arises from a self-defining knowledge structure or specific management education from higher institution, that refer as moral identity. With moral identity, one can posits that it able to motivates leaders to act in ways that demonstrate some responsiveness to the needs and interests of others, an orientation that philosopher and psychologist consider a defining characteristic of moral behavior (Eisenberg, 2000). Thus, applying social cognitive concept of moral identity to promote ethical leadership is my research purpose.

BUSINESS SCHOOL AND MANAGEMENT EDUCATION

Management education literature has long considered both on education role and economics return under university platform (Petriglieri & Petriglieri, 2010; Pfeffer & Fong, 2004). Thus, most fundamental role and mission of business school are increasingly being questioned (Bennis & O’Toole, 2005), which some scholars even anticipate their end (Pfeffer & Fong, 2004). For example,

leading business school concept may reflect a purpose of doing their mission. IMD (International Institution of Management Development) in Lausanne, Switzerland defined itself that it is not part of a university, thus, is an educational enterprise entirely unencumbered by having to coordinate with any other higher-level officials or parts or a larger organizational structure (Lorange, 2002).

Consequentially, the purpose of business school is clearly to assess its relevance by the responses it gets from the market that is why the dean need to being both highly responsive to the market and alert to possibilities to lead the market. Lorange (2002) stated that “a market perspective should always prevail” (p. 5). Which lead to the implication for faculty members is that “a professor must be billable in order to justify his presence on the academic team” (p. 61). Billable defined as a faculty member must be in demand by client firms and executives (Lorange, 2002, p. 181). Furthermore, one may believe that “business schools need to broaden the term ‘student to client’ ” (p. 46). Management education philosophy is exemplified by IMD’s vision and mission on strategies that should prevail on keeping a school relevant on emphasizing increase market orientation, rather than being fundamentally disciplinary and axiomatic. More tentative mean to achieve end are such as 1) increasing use of teams, rather than a collection of individual faculty member, 2) increasing attention to being more of a learning partner to organizations, rather than individuals basis, and 3) increasing effort to be more proactive, rather than simply being adaptive to reality under sufficiency logic.

Strong evidence of leading business school has yet rise the question of whether management professionals are socialized, in addition to generating great wealth and technical advances for some might has to threatened well-being at individual, natural system, and community levels. Therefore, it is an inevitable moment for business school to concentrate on either efficiency for sustainability or profitability for short-term success. Thus, business school should ask themselves on designing management education to energize future managers and leaders to resolve unsustainable society can once again expand horizons on flourishing society toward sustainability.

Therefore, a radical and rapid reforms in management education, particularly leadership development curriculum and program need to be redefined. Embedding ethical leadership is purpose on a broader scale to shift traditional leadership development platform. Ethical leadership is adequate to design management curriculum of higher education that focusing on educating students on transformational leadership behaviors of performing innovatively and ethically that not only for short-term success, but on sustainable growth. Which it is considered as a challenge for visionary higher education institutions to design an appropriate curriculum on moral identity and ethical leadership.

BUSINESS SCHOOL AND ETHICAL LEADERSHIP

The recent year, “...business schools are on the wrong track...” (Bennis & O’Toole, 2005, p. 96). While some of them focus their emphasis on discipline-based publication and others focus on proactive to market-based and relevant. Thus, business schools are hiring professors with no truly realized management professional mission to train young managers and leaders to go out on maximizing profit basis. The lack of clear vision and the misunderstanding of management purpose form management education strongly effect a graduate skill not only on adapting with today and future volatile business environment, but also misuse their business ethical conducts.

Ethical leadership is seen as a leader’s use of social influence to promote ethical conduct (Brown, Harrison, & Trevino, 2005). This paper draws on social learning theory (Bandura, 1986) by applying the discipline and foundation of ethical leadership in business school. Social learning theory posits that individuals learn appropriate behaviors through a role-modeling process, by observing and absorbing the behaviors of others (Bandura, 1986). Therefore, business school should selects appropriate models for ethical behavior, student (individual) are likely to pay attention to and emulate behaviors from credible and attractive role models rather than business case study that direct to find best solution on problem solving basis that eventually focus on economic benefits of a firm.

As a result, I argue that management education itself is weakened, becoming a pseudo-activity. In losing the capability of reflecting on management modes, and practices, educator (academic faculty)

risk losing a central place at the foundation of orientation the next generation to noble purpose of “doing business”. Moreover, a rationale of most business school has now become a business organization rather than business institution. On the rise since the 90s, academic Taylorism, responsive to blinkered school rankings, is a root-cause of a misguide whereby the entire university model has become increasingly irrelevant to the needs of social, natural, and economic reality (Greenwood, 2012).

In order to revise business school missions on having a major responsibility to advance truly transformative ethical business education, the paper suggest that “ethical identity platform” emerging in the conventional management education to develop truly self-integrated graduates, able to transform or challenge the business habitus of narrow economic rationality, but instead socio-economic rationality toward sustainability. This new business education platform by which school leveraging ethical business leadership as a role model as an example to promote ethical conduct through social influence. The purpose is to educate young managers and leaders be able to exhibit ethical conduct at a various levels of an organizational hierarchy, not only directly influences immediate followers’ ethical conduct, but also indirectly influences the ethical beliefs and conduct of followers at lower levels owing to 1) the replication of ethical leader behaviors among subordinate leaders, and 2) the embedding of shared ethical value on truly understanding basis the represent observable elements of work unit through ethical culture.

Therefore, new platform of management education should tie with a foundational framework of moral identity and ethical leadership that posits development mechanism through which young leader embed their assumptions into thinking behavior, and feeling under ethical logic. The propose platform draw from Schein’s “embedding mechanism” (1985, p. 224) and “shared cultural elements” (1985, p. 169) by extending toward moral identity and ethical leadership behaviors. A multi-dimension and multi-level management education is closely linking leadership capability, attitude, and effort within shared ethical cultural elements and their direct and indirect effects on follower ethical cognition and behaviors. This new platform provides a comprehensive management educational framework to develop young leaders with moral identity and be able to construct and influence ethical outcomes through their subordinates on producing ethical outcome within a complex multilevel of dynamic system.

EMBEDDING ETHICAL LEADERSHIP IN MANAGEMENT EDUCATION ON NURTURING AND EMERGING OF THE PRINCIPLES FOR RESPONSIBLE MANAGEMENT EDUCATION

Enhancing the sustainable development, the paper encourage the management development and the dissemination of social responsible business practice and enlightened management education with mean by which young leader at all levels and circumstances be able to introduce the multi-facets skills involved ethical behaviors necessary to become high potential leader. To achieve the original meaning of the Principles for Responsible Management Education, management education should initiate any meaningful and lasting change in driving ethical leadership behaviors through leadership development program on conducting business activities toward societal responsibility and sustainability that higher management education must involve directly as a driver of business behaviors.

As most of business organizations have intensified their focus on leadership development, the implications for management education institution have been profound. Consequentially help guiding business school to redefine their missions, strategies, and curriculum on leadership education and development. Consistent with current missions business school should investing in the creation and administration of ethical leadership center and institutes that are designed to support and promote moral identity and ethical leadership education. However, leading business school such as Massachusetts Institute of Technology (MIT), the University of Washington’s Foster School of Business, and the University of North Carolina’s Kenan Flagler Business School, and Wharton Business School at the University of Pennsylvania have revised their undergraduate and graduate program so that leadership development course and field experiences are part of core curriculum

(DeRue, Sitkin, & Podolny, 2011). Thus, even though the validity of ethical leadership as an explanation for individual, group, and organizational outcomes is still lack behind of debating in social and economic benefits.

Due to the scarcity of rigorous theoretical and empirical research on the design and delivery of leadership teaching and education, this paper encourage business schools move forward with an increasing emphasis on moral identity and ethical leadership development. Therefore, business schools need to explore the teaching of ethical leadership, as well as to assess the learning and management education implications of different philosophies in order to designs appropriate approaches of its teaching. Employing a diverse set of rigorous curriculum designs and teaching approach is needed to align business objectives with moral identity and ethical leadership toward sustainable growth.

TRANSFORMING MANAGEMENT EDUCATION TO ENSURE SUSTAINABLE GROWTH

To address the questions of what if business school education were really able to offer learning that produces integrated executives, managers, and professionals who are able to function for the greater good (MacMahon, 2009) and what if the integrated habitus was leveraged for humane and ethically engaged management graduates who could create sustainable prosperity (Jackson, 2012)?, I suggested that business school should emphasis on “self-integration” at the core of an of an organizational culture which is a logical and compelling site for self and system transformation. Thus, it become a key leverage point in university-based business education which embraces the intention for system change (Meadows, 1999). Thus, it is business school challenge missions on developing self-integrated graduates that has mature (integrated) cognitive and moral reasoning and ethical mature response and action capacity. Transforming young managers and leaders to be “self-integrated” would establishes graduates capacity for maintaining professional integrity in management as a morally engage profession with a social purpose of sustainability.

CONCLUSION

Becoming an ethical leader in early career challenge has faced business graduates on growing their high potential leadership role. Therefore, preparing young business graduates encounter in these transitions requires insight leadership curricula to address future leadership multi-facets roles and responsibilities. Thus, total sustainable growth achievement depends solely on how business school designed and delivered to their young managers and leaders. As an educators and leadership development professionals, whether in business or a business school, it is our duties to fulfill these opportunities with ethical responsibilities to contribute our knowledge in full efforts for the future of business and society by educating and inspiring the leader today and tomorrow on moral identity to become effective ethical leader. The success is on our leading skill through our teaching of leadership.

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