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Editorial

Welcome to the eighth issue of the UTCC International Journal of Business and Economics (UTCC IJBE). We, the editors, appreciate greatly the support of the University of the Thai Chamber of Commerce and the Thailand Management Association (TMA), as well as the sponsorship of the Kellogg College, University of Oxford in asking us to become involved in this endeavor as editors of the UTCC IJBE.

Over the past few years, we have noticed the rapid development of business, economics, and accountancy within the industrial, academic and governmental sectors. More and more people are talking, researching and applying business, economics, and accountancy within a myriad of contexts. There is much excitement in the field.

The UTCC IJBE has been established in response to this increased interest in business, economics, and accountancy issues as a forum for interested parties to advance their knowledge and science of the said discipline. The geographical scope of the journal is not solely limited to Thailand and the surrounding region.

This eighth issue of the UTCC IJBE represents a compilation of submitted papers. It is hoped that this issue will set a new benchmark in terms of academic publications in Thailand, especially in the field of business, economics, and accountancy.

The Editors would like to invite academicians, practitioners and policy makers to submit their manuscripts on business, economics, accountancy, and other related disciplines. Through the support of our Editorial and Advisory Board, we hope to be able to provide academic articles of the highest quality to all our readers.

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Abstract

Nowadays a new form of competition called Nation Branding has been observed all over the world. Nations are competing as a whole to portray a good image to the outsiders. This, in turn, will have its own positive implications on the nation; such as attracting foreign investment, increasing tourism, and enhancing exports and so on. Therefore, it is important that research is conducted in this field and different aspects of enhancing nation branding are looked at in depth. This research paper looks into Oman's case in branding itself as a nation. It takes into account the locals' (Omanis') views on nation branding in general and branding Oman in particular. It then compares the findings with the 'actual' branding of Oman as a nation through the initiative 'Brand Oman' undertaken by Brand Oman Management Unit (BOMU). This paper aims to assess the success of Brand Oman in branding the nation, while taking into account the perceptions of the locals and to suggest improvements to augment the branding strategy.

It was found that majority of Omani respondents do not know about nation. However, they have a clear understanding that Oman should be promoted as a country with rich culture and heritage. The respondents also believe that Oman is currently not branding itself effectively and Brand Oman logo developed by an official agency is not appealing and fails to adequately portray Oman's image. The majority of locals recommend developing tourism sector to attract more foreigners.

The results clearly show that there is a gap between locals' awareness of branding Oman as a nation and Brand Oman's efforts in doing the same. Hence, there is an urgent need to bridge this gap for more effective branding. Consequently, recommendations are then made to bridge that gap through various actions related to information spread, Oman's cultural tourism development, and publicity enhancement. This will help promote locals' current understanding of branding Oman and also help brand Oman through a smooth common understanding amongst all concerned.

1. Introduction

Today the countries have realized that they need a systematic and proactive approach using integrated marketing management to promote themselves in the world (Ruzzier, 2012). *Nation branding* is an initiative to promote a country in an area in which it is better as compared to other nations. Nation branding exists in many forms, the simplest one being a logo or a slogan. Other complex forms include country reputation, peacefulness and the like. There are many reasons why nations are heading towards branding themselves: for instance, to attract foreign investors and tourists, increase local employment, develop a new country image, remove a false image, etc. Therefore, to begin with, it is important that a common image is perceived by locals about their own country, and then this image is transferred to the outsiders in the best manner. Nation Branding's effectiveness can be seen through the image that appears in people's mind when the name of the country being branded is presented to them in context or vice versa. For instance, if you hear the country name 'Italy' and the image of 'fashion or design' is immediately drawn in your mind, then that is a true sign of a successful nation brand. Similarly, if you hear the word 'fashion or design' and you recall the country 'Italy' in your mind, then definitely the link between branding Italy and fashion has proven to be effective.

Nation branding has become a hot topic in the last decade but the academic literature is still emerging (Tasci, 2011). Literatures other than marketing also endorse this concept. For example, in his seminal work in strategic management, *The Competitive Advantage of Nations*, Michael Porter (1980) emphasizes that nations and national character remain of prime importance for generating competitive advantage. In the recent years a number of countries and regions have embarked on branding route including Australia, Brazil, Costa Rica, Dubai, Hong Kong, Ireland, Mexico, New Zealand, Portugal, Scotland, Singapore, South Africa, Spain, Thailand, UK and USA (Daye and VanAuken, 2007).

With an ultimate objective to promote itself to rest of the world, the Sultanate of Oman has also initiated a Nation Branding endeavor in 2009. The objective of this research paper is to assess Nation Branding effort undertaken by Oman, from the perspective of Omani people. The Oman Brand Management Unit (OBMU) launched different activities such as the Inside Stories, Frontline is, Muscat Youth Summit to promote Oman's country image and identity. Even though this initiative is currently in early stages, it is important to take a stock of what has been accomplished and identify areas of improvements. This research was initiated with this backdrop. This paper aims to assess the success of Brand Oman in branding the nation, while

taking into account the perceptions of the locals and to suggest improvements to augment the branding strategy. Specifically, it postulates the following research questions:

A) How aware are Omani public about concept of nation branding and Brand Oman Unit?

B) How effectively Oman is branding itself?

C) What activities can be undertaken to improve Oman's image abroad?

In section 2, the paper first looks at previous research conducted and the findings so made on nation branding in general and on branding Oman in particular. In the process, it also identifies the different types of nation branding and the challenges pertaining to nation branding. The paper then describes the methodology applied for the purpose of this study in section 3 and later elaborates upon the results so obtained in section 4. In section 5, the paper is concluded with the important findings and recommendations for strengthening nation branding in Oman. Lastly, section 6 states future research and managerial implications in this study area.

2. Literature Review

As competition is rising between nations on various facets such as innovation, technology, tourism etc.nation branding is becoming the talk of the town. Researchers have tackled this interesting topic from different angles and perspectives; ranging from as simple as defining nation branding to the more complex process of investigating existing real examples of nation branding.

2.1 What is Nation Branding?

"There is no single definition of nation branding" (Fan, 2006). The definitions vary depending on how a nation would like to brand itself. Nation branding is at times used interchangeably with the country of origin (COO) effect, country image, country identity, and country positioning. Individuals interpret this term differently. To some, "it refers to a consistent and all-embracing national brand strategy which determines the most realistic, most competitive and most compelling strategic vision for the country, and ensures that this vision is supported, reinforced and enriched by every act of communication between the country and the rest of the world" (Fan, 2006). To others, "a nation brand offers no tangible product or service; instead, it represents and encompasses a wide variety of factors and associations such as geography, history, culture and famous persons, just to name a few" (Fan, 2006). The objectives of nation branding vary according to the objectives set by each country. For instance, a country may intend to present itself as a 'country of peace' while another one might aim to portray itself as 'a country with technological advancement' while still others as 'country of culture and heritage' and so on. Some countries try "to reposition themselves or correct pre-existing/out-of-date notions about the state in order to reflect fundamental political, economic and/or social changes that have emerged in the country" (Tatevossian, 2008). However, in order for a nation to achieve what it's aiming for through nation branding, it must prepare the building blocks for such objectives to be achieved. Another example is seen in countries where they apply nation branding 'in order to define a sort of forward-looking plan'. Thus, the brand is something of a

future map for the nation, or a 'promise' (Tatevossian, 2008). In all cases, as Fan (2006) correctly said, 'nation branding …. only serves as the final touch, to add icing on the cake. If economic development in a country is like completing a gigantic jigsaw, nation branding is probably the last piece'.

2.2 Approaches and Strategies in Nation Branding

There are various approaches towards nation branding; for instance, place branding or place/destination marketing which promotes a place not just for visits and tourism but also for inward investment, job creation and settlement. Another approach concerns applying branding and marketing communications techniques to promote a nation's image while bearing in mind that 'the purpose of the nation brand, the message it is trying to communicate, and also the target audience are identified before any campaign is launched' (Fan, 2006). 'One of the primary rules of nation branding is that the nation brand must be rooted in the realities of a country and its society' (Tatevossian, 2008). Fiona Gilmore (2002) clarifies this: "the important thing to realize about branding a country is that it must be an *amplification* of what is already there and not a *fabrication*... If a brand is not rooted in reality and credible, the audiences (domestic and international) will sense the dissonance and lose trust in the brand". Thus, different nations have different strategies in nation branding. For instance, "Singapore is being promoted with a new image -- it is to be a funky and creative city where it has embarked on an ambitious program to make the city-state a significant player in the global creative economy" (Ooi, 2008). Switzerland on the other hand, promotes itself by emphasizing "science and technology, higher education, and innovation environment' through the so called *swissnex network*. 'The *swissnex* network is a key component of the Swiss strategic policy on the promotion of education, research and innovation set by the Federal Council" (Fetscherin and Marmier, 2010).

2.3 Destination/Place Branding

"Destination branding is the process of developing a unique identity or personality for a tourist (or investment) destination, and communicating the same to visitors (or prospective investors) using a name, a tagline, a symbol, a design or a combination of these to create a positive image" (Harish, 2010). The benefit of destination branding is not only to attract tourists but also "for inward investment, job creation and settlement" (Fan, 2006). Although "tourism branding has become a powerful mechanism in transmitting brand messages" (Jalilvand and Esfahani, 2010), nevertheless, this leaves the country with a challenging task to brand the place in such a differentiated unique way that tourists select it amongst the numerous choices of destinations present around the globe. "With travellers spoilt by choice of available destinations, never before has it been more important for a destination to develop an effective brand" (Pike, 2005). In fact, as advertising of different places increases and the promotions of various destinations are widely spread, the competition would be purely judged by the hearts and minds of people. Therefore, when a country builds its strategy for destination branding, it is very important that it looks into areas where hearts and minds of people are captured.

2.4 Cultural Tourism

Cultural tourism is a component of tourism. It is basically the integration of culture and heritage in tourism in order to offer a unique cultural experience to tourists, since "cultural resources can significantly enhance the image and quality of tourist destination offer" (Urosevic, 2010). This type of tourism enables "good-quality positioning of destinations whose international competition is based on the unique and highly valued cultural resources and preserved natural heritage" (Urosevic, 2010). Therefore, countries with rich cultural resources and heritage would be better off if they develop this type of tourism approach. Cultural resources "not only include the cultural sights, museums and galleries, performances and events, but also the symbolic value of destination cultural identity, the so-called intangible cultural heritage, and the lifestyle of the residents" (Urosevic, 2010). In many countries, the national dress is considered part of the country identity. This enables the tourists to actually sense their presence within the culture of those countries. Moreover, developing tourism within a country through cultural tourism might cause tourists to be more satisfied, spend more, and sometimes extend their stay as well.

2.5 Challenges Associated with Nation Branding

Nation branding, like any other newly introduced initiatives, faces challenges. The first challenge is "how to communicate a single image or message to different audiences in different countries" (Fan, 2006). It is extremely challenging to streamline the same image amongst different minds, as different humans have different ways of thinking. Sevin (2011) correctly said that "nation branding indeed takes place in a competitive environment. It is a competition for the hearts and minds of the people as well as for their wallets." Another challenge refers to the fact that "there is usually a multiplicity of organizations engaged in crafting and delivering the brand" (Harish, 2010). Linking this challenge to the previous one, it is important that all parties involved must have a common understanding of what is being branded. Also, though these organizations may work independently, but they need to convey the same message to the audience about the brand image. Finally, the third challenge lies in being distinctive and unique. "The distinctiveness and exclusivity of a nation brand is hard to protect, as the nation has no natural monopoly on the precise qualities it is seeking to promote" (Fan, 2006). For instance, if we take 'place branding' or 'destination marketing' approach as examples, it is extremely challenging to uniquely brand a nation's tourism (in terms of landscape) in a world where there are lots of other countries with rich beautiful natural landscapes. Therefore, a country should truly have something unique and exceptional in order to stand out when compared to other countries.

2.6 Branding Oman

Brand Oman Management Unit (BOMU) was launched in Oman by the Public Authority for Investment Promotion and Export Development (PAIPED) at the start of 2009. Since Oman has diverse resources, rich culture, and old heritage such as Arabic calligraphy, marine environment, local textiles, landscape, Oman's historic leadership in trade and pioneering role in exploration, and frankincense, Brand Oman aims to bring about all these jewels when branding Oman as a nation. It celebrates the wonderful diversity that Oman is pleased with: its unique people, stories, culture, ideas, leadership and vision. "In building and sustaining the brand

promise as with products, nations have often made recourse to tailor-fit strategies, appointing brand ambassadors, hosting major sports competitions and crafting catchy taglines" (Ntamu, 2011). In Oman, BOMU was established to provide the government of Oman with timely and cogent strategic communications, media relations, and marketing support. Thus, in particular, it helps Oman build, develop, and communicate a coherent and powerful identity together with establishing and projecting a common and consistent national image. In terms of publicity, BOMU does not aim to follow the straight forward advertising for Oman as a nation. Instead, it plans to encourage a more focused, organic, sustainable, and co-ordinated approach to developing a stronger national brand. Brand Oman therefore, has a brand center which is an online system management tool to ensure consistency in implementing the various applications of the brand. It is a web-based resource which provides brand knowledge for Brand Oman's local and international partners to ensure appropriate brand delivery. The website consists of a link where all Brand Oman publicity is captured for quick reference. A reference to all recommended websites related to Oman's government authorities, hospitality, media and other services is also included to help locals as well as tourists explore information about Oman. The website contains a link for the tourists in particular which contains information about tourism and services related to it. In addition, BOMU has also taken various initiatives such as Frontline, The Muscat Youth Summit, Inside Stories, etc. These programs proved successful when looking at the intensive attendees and participation. Nevertheless, still most locals believe that those initiatives were not publicized enough and believe that more needs to be done in this aspect.

3. Methodology

This study followed a quantitative research approach. It employed a questionnaire to measure Omanis' (locals') awareness of nation branding in general and branding Oman in particular. The questionnaire was randomly distributed in a hard copy format to a sample of 300 Omanis working in various randomly chosen organizations in Oman. Out of the 300 surveys distributed, about 80% (241) were received fully completed. The questionnaire was written in both English and Arabic in order to facilitate the understanding of different terms related to nation branding, which otherwise might have not been familiar to respondents. The questionnaire consisted of fifteen (15) questions in total, all of which were closed-ended questions except for one which was a ranking question. Part one consisted of questions related to reveal Omanis' understanding of the fundamentals of nation branding and get their views on what should be Oman's image as a country. The questions were created from the ideas presented in the papers of Fan (2006), Jalilvand and Esfahani (2010), and Urosevic (2010). These papers tackled areas with direct relevance to the subject research and objectives and were tested in the form of questions created by the authors. Part two consisted of questions related to understanding Omanis' views on the effectiveness and adequacy of Oman's current destination branding efforts in terms of development, promotion, and speed. The questions were created by the authors with the aid of the idea of cultural tourism presented in the paper of Urosevic (2010). Part three was related to Omanis' awareness of BOMU, its objectives, activities and publicity efforts. The questions were created by the authors with the aid of information available on BOMU website and the ideas presented in Urosevic (2010) paper.

4. Findings and Discussion

The survey questions were analyzed using descriptive data, especially percentage of frequency of responses. The table below represents the results so obtained:

Finding	Percentage of respondents
Insufficient background on nation branding	65
Have right understanding of nation branding	61
Have the specific image of Oman as "a country of rich culture and heritage"	71
Tourists also perceive Oman as "a country of rich culture and heritage"	54
Oman should focus on developing tourism	55
Oman is not branding itself effectively	64
Oman is not branding itself adequately	78
Oman is being branded primarily by word of mouth	33
To improve its branding, Oman should focus more on participating in festivals abroad rather than holding festivals within the country	31
Promote Oman through social media	29
Unaware of BOMU, including its reason for existence	81
Brand Oman's logo isn't appealing and fails to reflect Oman's image correctly	55

The following sections further elaborate upon these results and discuss the implications of findings.

4.1 Locals' awareness of branding Oman as a nation

The majority (65%) of Omani respondents do not have sufficient background on nation branding. This is not much of a surprise because firstly, nation branding is a recently introduced area upon which countries have just started putting emphasis. Nonetheless, its importance has grown and has proven to be effective in bringing about various objectives set by any country pertaining to the outside world. By the same token, Oman has already started to raise its country image and identity through the creation of BOMU. Although most locals didn't have much background on nation branding nevertheless, mostly (61%) had the right understanding of nation branding's objective as being dependent on the country's political, economic, and social objectives. However, objectives may vary from promoting foreign investment in a country, to promoting a country's local products abroad, to promoting tourism, or even removing any unwanted/bad image about a country or revealing a new image. Therefore, it is essential that all these objectives are clearly explained to the locals through branding Oman campaigns in order for them to be able to distinguish between different countries' nation branding goals.

Furthermore, it was observed that the locals have a specific image in their minds about their own country 'Oman', that is 'a country of rich culture and heritage' as represented by 71% of the responses. This picture is supported by Oman's rich history and culture throughout its existence. When asked about their perceptions of tourists' image of Oman, more than half of them (54%) responded that 'tourists picture Oman as a country with rich culture and heritage'. It was an interesting and positive sign to find that both the locals' personal views on Oman's

country image and their perceptions of tourists' views on Oman's country image fall within the same category. Additionally, this is also a good indicator that a majority of the locals believe that the tourists observe Oman's culture and heritage through their visits to Oman's major tourists spots such as Souq's (where silver handicrafts making is common and traditional clothes and jewelry are sold), forts, castles, frankincense areas and more. Moreover, since most Omani males wear the traditional dress in their everyday activities, it is a great cultural image reflecting Oman's culture to tourists throughout their visit. Similarly, there are some areas within Oman where women still dress up in traditional clothes carrying out their everyday activities, for example in Salalah, Al Dhakhiliyah, and Al Sharqiyah. This again clearly reflects locals' strong connection to their culture, and builds a cultural image of the country in tourists' minds.

In addition, 55% of the locals suggested that Oman should focus on developing its tourism in order to attract more tourists. Tourism consists of many aspects such as Oman's beautiful landscape, mountains, beaches and more. Cultural spot developments also fall under tourism which will indeed attract more and more tourists over the coming years. Hence, since, "any branding effort should be specially designed in accordance with the unique nature of the destination place" (Jalilvand & Esfahani, 2010), therefore, Oman should focus on developing its tourism and integrating its culture and heritage in it. This approach includes the so called '*Cultural tourism*', which is "tourism of special interests, referring to visits of people outside their permanent place of residence, completely or partly motivated by the interest in history, arts, heritage and lifestyle of the location, region, group or institution"(Urosevic, 2010). This tactic is encouraged by various entities such as the *World Tourist Organization*. As stated by experts, "more than 50% of tourist visits in Europe are motivated by cultural heritage, and cultural tourism has the highest growth rate in the entire tourism sector" (Urosevic, 2010). Hence, by applying cultural tourism in developing Oman's tourism, Oman will be in a better position to brand itself as a destination attracting tourists from all over the world. Having said that, other areas such as export of local products, industrial development and technology should be explored as well as they also contribute towards branding Oman and add value to its image as a country. For instance, focusing on exporting quality local products would not only market the product brand but also the country as a whole. For example, when purchasing digital products (cameras or televisions), consumers usually care more about the country of origin of those products (i.e. Japan, Korea) rather than brand names, especially when product brands are new in the market. Oman also exports several quality products, such as Wave (sanitary items) and Amouage (perfumery products). Once consumers begin to trust the quality of such products, then definitely this will positively impact Oman's country image as being a country that produces quality products.

4.2 Views on the effectiveness and adequacy of Oman's destination branding in terms of development, promotion, and speed.

Currently, most locals believe that Oman is not branding itself effectively and adequately (as represented by 64% and 78% of the responses, respectively) as a destination, even though it is rich in both landscape and culture. As a result, through destination branding, Oman should focus on the effectiveness of its promotions which would in turn result in attracting more tourists, and enhancing outsiders' understanding of Oman as a country. Entities concerned with such promotions include Ministry of Tourism, Ministry of Culture, Oman Air just to name a few.

Through them, Oman can expose itself thoroughly. In addition, other sources of destination branding include Oman's presence in other countries' functions, exhibitions and festivals. Also, promotions could be done through the local radio channels or those which are in outside countries.

However, having said that, previously Oman used to be extremely unknown to foreigners and some actually had not even heard of its name. But now, thanks to the improved promotions, Oman has moved to a better position in branding itself as a destination. Nonetheless, efforts need to be increased in order to reach to higher positions in future.

Apart from this, about 33% of the respondents stated that currently Oman is being branded primarily as a destination through word of mouth. This includes foreigners (tourists, students or employees) expressing their positive experience within Oman to others. In addition, this may also include the Omanis living abroad conveying a positive image of their country (Oman) to the people in those countries.

When asked about their views on how the current destination branding method can be improved, 31% suggested that Oman should participate more in festivals abroad rather than holding festivals within the country. A key reason behind this might be that through this transformation, Oman would be exposed to a greater international audience when participating abroad as opposed to the limited foreigners who might come to attend festivals held locally. Therefore, chances of conveying Oman's image effectively and at a larger scope are greater abroad. Oman has already taken this step by participating in worldwide exhibitions such as World Expo held in China in 2010 and in Korea in 2012. Another suggestion given by 29% of the respondents included promoting Oman through social media (Facebook, Twitter…etc). This is a great and fast means of communication used by millions of users today Hence, Oman can easily and quickly convey its messages related to destination branding throughout the world by utilizing such tools.

4.3 Omanis' awareness of Brand Oman Management Unit, its objectives, activities and publicity efforts.

The results show that a very high percentage (81%) of the responding locals do not know anything about BOMU including its reason for existence, while nearly all except a few are also unaware of its website. Most of the respondents expressed that this was mainly the case due to a lack of publicity through media, whereas others linked the lack of awareness to the lack of activities performed by the unit. Therefore, since BOMU is the focal point concerned with branding Oman as a nation, it is vital that locals are aware of it and that its activities are publicized well enough. As for the website, it is considered as an effective informative tool for both locals and foreigners to get to know about Oman in general and Oman brand in particular; hence, it should be well spread across Oman and worldwide in order to achieve its purpose. "Visitors to cultural and historical sites find the needed information *mainly* through the Internet" (Urosevic, 2010). The results also reveal that most locals are not comfortable with the level of publicity done by BOMU through local media or social media. Therefore, BOMU should focus on both of those tools of communication for publicity in order to reach out to as many people as possible. This will help in branding Oman in the most effective manner.

Furthermore, since logos are equally as (or even more) important than words (as it's said, "a picture is worth a thousand words"), it was important to reveal people's views on the logo developed to reflect Oman's image. When expressing their views on brand Oman's logo, 55% of the respondents did not find the logo appealing and thought that it failed to reflect Oman's image correctly. This may be due to the fact that in the logo, the mountains are not outlined in brown for better image reflection, the logo mainly gives a marine view since all colors are in the blue range and it also lacks the signs of Omani culture within it which is an important aspect of branding Oman as a nation. In addition to the logo, it is very important to attach a slogan reflecting a country's message. "A place name by itself is not sufficient differentiation…a slogan is a necessary public articulation of a destination's brand positioning strategy" (Pike, 2005). For instance, India has the slogan '*Incredible India*' which boosted its tourism once it was launched. Also, Malaysia has the slogan '*Malaysia, truly Asia*' which flows very smoothly into anyone's heart and mind. Hence,, brand Oman should develop a similar slogan which appeals to people's hearts and mind and creates an emotional connection with the brand.

5. Conclusion & Recommendations

After comparing the locals' point of views against the country's efforts in branding Oman, the following conclusions can be made:

- Locals do not have sufficient background knowledge on branding nations.
- Locals (and presumably tourists) view Oman's country image as being a country with rich culture and heritage. Also, the locals suggest that Oman should focus on bringing about this image to the outside world through tourism development and thereafter, destination branding.
- Currently Oman is not branding itself effectively or adequately as a destination.
- Although BOMU is launching different activities to promote Oman's country image and identity and is using the social media to publicize their activities, yet most locals are still not aware of its existence in the first place and also its activities. They believe that it is due to a lack of publicity activities.
- Oman has started to increase its presence abroad through participation in major worldwide exhibitions such as World Expo where millions of visitors come from around the globe. Hence, this is a great opportunity for other countries to promote themselves and their images as well.
- More than half of the local respondents do not find the logo of branding Oman as appealing and attractive or as presenting the true image of Oman Additionally, there is no slogan attached to it, which is considered a crucial part of building an emotional connection to peoples' hearts and minds.

Taking the findings made above into consideration, the following recommendations can be made to strengthen Nation Branding endeavor in Oman:

- Locals should be educated on nation branding as a starting point in order to have a common background and understanding amongst all.

- Objectives of branding Oman should be clearly explained to locals, and different countries' objectives of nation branding should also be explained in order for them to understand the differences.
- Oman should focus on developing its tourism and integrating its culture and heritage in it. Simultaneously, it should also focus on other factors such as export of quality products since this would have a direct effect on country image.
- Oman should participate in festivals abroad more rather than hold festivals within the country as the audience would be at a larger range abroad both in size and variety of nationalities.
- Oman should make use of social media which is considered to be the quickest and most effective tool of communication in today's world. Although BOMU is currently using social media, however, locals are still not aware of it. Therefore, the unit needs to look into why this media is not reaching locals and find ways for improvement. For instance, text messages containing Brand Oman's website can be sent to all mobile users. In addition, activities or events can be sent as notifications too. This way, people would at least know what is happening instantly.
- Brand Oman Management Unit should start by educating people about its existence, its purpose and then follow that with various activities and heavy publicity using both local and social media. One of the most effective tools in publicity in Oman is the radio (fm) where BOMU can advertise its existence in both English and Arabic radio channels, thereby reaching out to a vast number of audience (both locals and foreigners).
- Adding an attractive slogan to differentiate Oman from being just a destination name to being a destination to which tourists are attracted, would certainly add value to Oman's destination branding

6. Future Implications

In future, similar studies maybe conducted for other countries to analyze the success of nation branding over there. Additionally, researchers may look at the countries with successful nation branding strategies keeping Oman in perspective and come up with ideas that could be incorporated at Oman in order to improve its image. Also, it is important to take into consideration the perspective of foreigners who are the prime target for Brand Oman campaign. A survey could be conducted of foreigner living in Oman, tourists visiting Oman and foreigners living in other countries, from where potential tourist could come.

For any place branding effort to succeed, it is very important that image promoted to the foreigners is first sold to the locals since locals have to be convinced of that image before they can portray that image as a nation to others. Also, it is important image promoted abroad should be a true reflection of what locals think of themselves or aspire to be. Brand logo is an integral component of promotion and should integrate country's heritage and future aims. The managers of Brand Oman Unit needs to ensure that the proposed image of Oman is in line with public's opinion of themselves and their country. The image of Oman should be promoted to Omani people first and perhaps Brand Oman logo should be modified in light of findings of this research.

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TEXT DATA MINING OF ENGLISH MATERIALS FOR ENVIRONMENTOLOGY

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Abstract

Recently, disasters arising from extreme weather, such as localized heavy rain, snow, typhoons, hurricanes and severe heat waves, have grown both in scale and frequency. To confront environmental problems, a system of "environmentology" is trying to be constructed. In order to study environmentology, reading materials in English is considered to be indispensable. In this paper, we investigated several English books on environmentology, comparing with journalism in terms of metrical linguistics. In short, frequency characteristics of character- and word-appearance were investigated using a program written in C++. These characteristics were approximated by an exponential function. Furthermore, we calculated the percentage of Japanese junior high school required vocabulary and American basic vocabulary to obtain the difficulty-level as well as the K-characteristic of each material. As a result, it was clearly shown that English materials for environmentology have a similar tendency to literary writings in the characteristics of character-appearance. Besides, the values of the K-characteristic for the materials for environmentology are high, and some books are more difficult than *TIME* magazine.

Keywords: Environmentology, Metrical linguistics, Text data mining

1. Introduction

In recent years, disasters arising from extreme weather, such as localized heavy rain, snow, typhoons, hurricanes and severe heat waves, have grown both in scale and frequency. It seems quite obvious that fundamental climate change is taking place on our planet.

To confront environmental problems which the human race faces, the promotion of talents who can take a panoramic view of wide objects from nature to the human society is required now. Therefore, study areas covering from natural science, engineering and humanities, to social science being gathered together, a system of wisdom, "environmentology," that exceeds an existing frame is trying be constructed to advance the education and research based on it.

In order to study environmentology, reading materials in English that can be said to be a world common language considered to be indispensable. If we have beforehand enough knowledge of the features of English in this field, reading of the texts will become easier.

In this paper, we investigated several English books on environmentology, comparing with journalism in terms of metrical linguistics. As a result, it was clearly shown that English materials for environmentology have some interesting characteristics about character- and word-appearance.

2. Method of analysis and materials

The materials analyzed here are as follows:

Material 1: Rachel Carson, *Silent Spring*, Mariner Books, 2002
Material 2: Joseph R. DesJardins, *Environmental Ethics: An Introduction to Environmental Philosophy*, 3rd ed., Wadsworth Pub Co, 2000
Material 3: Thomas L. Friedman, *Hot, Flat, and Crowded: Why We Need a Green Revolution—and How It Can Renew America*, Picador USA, 2009
Material 4: Albert Gore, *Earth in the Balance: Ecology and the Human Spirit*, Rodale Press, 2006
Material 5: James Hansen, *Storms of My Grandchildren: The Truth About the Coming Climate Catastrophe and Our Last Chance to Save Humanity*, Bloomsbury Publishing PLC, 2009
Material 6: Simon Levin, *Fragile Dominion*, Basic Books, 2000
Material 7: Bjorn Lomborg, *The Skeptical Environmentalist: Measuring the Real State of the World*, Cambridge University Press, 2001
Material 8: James Lovelock, *The Revenge of Gaia: Earth's Climate Crisis & The Fate of Humanity*, Basic Books, 2007
Material 9: William D. Nordhaus, *A Question of Balance: Weighing the Options on Global Warming Policies*, Yale University Press, 2008
Material 10: Nicholas Stern, *Blueprint for a Safer Planet: How to Manage Climate Change and Create a New Era of Progress and Prosperity*, The Bodley Head Ltd, 2009

We examined the first three chapters of each material. For comparison, we analyzed the American popular news magazine "TIME" published on January 11 in 2010. Because almost no changes are seen in the frequency characteristics of character- and word-appearance for the magazine for about 60 years, we have used it as a criterion for comparison with English materials. Deleting pictures, headlines, etc., we used only the texts.

The computer program for this analysis is composed of C++. Besides the characteristics of character- and word-appearance for each piece of material, various information such as the "number of sentences," the "number of paragraphs," the "mean word length," the "number of words per sentence," etc. can be extracted by this program.

3. Results

3.1 Characteristics of Character-appearance

The First, the most frequently used characters in each material and their frequency were derived. The frequencies of the 50 most frequently used characters including the blanks, capitals, small letters and punctuations were plotted on a descending scale. The vertical shaft shows the degree of the frequency and the horizontal shaft shows the order of character-appearance. The vertical shaft is scaled with a logarithm. This characteristic curve was approximated by the following exponential function:

$$y = c * \exp(-bx) \tag{1}$$

From this function, we are able to derive coefficients c and b. The distribution of coefficients c and b extracted from each material is shown in Figure 1. There is a linear relationship between c and b for all the 11 materials. These values for all the materials for environmentology are approximated by $[y = 0.0072x + 0.038]$. The values of coefficients c and b for Materials 1 to 10 are high: the value of c ranges from 10.808 (Material 5) to 14.817 (Material 6), and that of b is 0.1158 (Material 5) to 0.1442 (Material 6). On the other hand, in the case of *TIME* magazine, c is 9.6809 and b is 0.1044, both of which are lower than those for all the materials for environmentology. Previously, we analyzed various English writings and reported that there is a positive correlation between the coefficients c and b, and that the more journalistic the material is, the lower the values of c and b are, and the more literary, the higher the values of c and b. Thus, the values of the coefficients for the books on environmentology are higher than those for *TIME* magazine, that is, journalism, which means the materials for environmentology have a similar tendency to literary writings, as we have expected.

Figure 1 Dispersions of coefficients c and b for character-appearance.
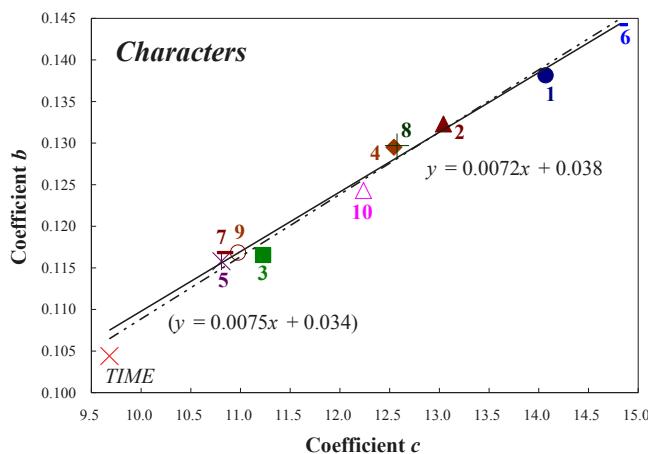
3.2 Characteristics of Word-appearance

Next, the most frequently used words in each material and their frequency were obtained. The article THE is the most frequently used word for every material including *TIME* magazine. As for the materials for environmentology, OF is the second for 9 materials, and AND, TO and IN are also ranked high. Some nouns which are related to environmentology such as CARBON, CLIMATE, EARTH, EMISSION and ENVIRONMENTAL are ranked within top 20 in 6 materials. Besides, the words which contain ENVIRONMENT such as ENVIRONMENT(S), ENVIRONMENTAL, ENVIRONMENTALIST(S) and ENVIRONMENTALLY are used in every material, whose total frequency ranges from 0.066% (Material 5) to 0.707% (Material 2) for each environmentology material, while it for *TIME* is 0.019%.

Just as in the case of characters, the frequencies of the 50 most frequently used words in each material were plotted. Each characteristic curve was approximated by the same exponential function. The distribution of c and b is shown in Figure 2. As for the coefficient c, the values for Materials 1 to 10 are high: they range form 1.8065 (Material 4) to 2.2398 (Material 9), compared with that for *TIME* magazine, that is, 1.7427. In the case of word-appearance, we can see a weak positive correlation between coefficients c and b for all the materials for environmentology, and the values are approximated by $[y = 0.0086x + 0.032]$. Besides, the values for Materials 1, 2, 6 and 7 are relatively similar and we might be able to regard them as a cluster.

Figure 2 Dispersions of coefficients c and b for word-appearance.
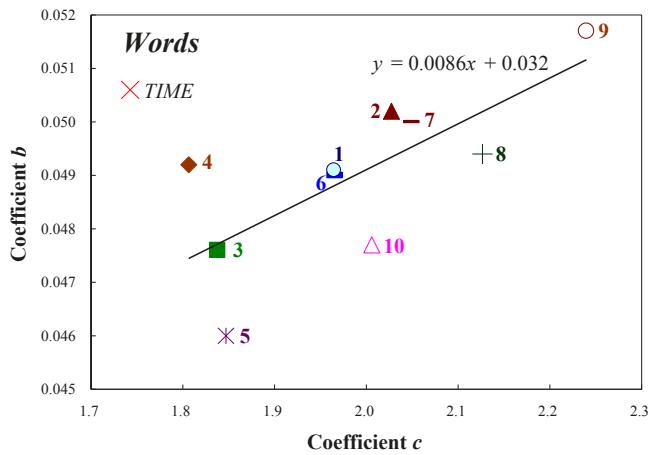
As a method of featuring words used in a writing, a statistician named Udny Yule suggested an index called the "*K*-characteristic" in 1944. This can express the richness of vocabulary in writings by measuring the probability of any randomly selected pair of words being identical. He tried to identify the author of *The Imitation of Christ* using this index. This *K*-characteristic is defined as follows:

$$K = 10^4 (S_2 / S_1^2 - 1 / S_1) \qquad (2)$$

where if there are f_i words used x_i times in a writing, $[S_1 = \Sigma x_i f_i]$, $[S_2 = \Sigma x_i^2 f_i]$.

We examined the *K*-characteristic for each material. The results are shown in Figure 3. According to the figure, the values for 10 materials on evironmentology are high: they range form 85.981 (Material 3) to 129.244 (Material 4), compared with the value for *TIME* magazine (73.460). Especially, Materials 4 and 9 are high: they are 129.244 (Material 4) and 127.073 (Material 9). They are over 40 more than Material 3 (85.981), which is the lowest of all the materials for environmentology.

Figure 3 *K*-characteristic for each material.
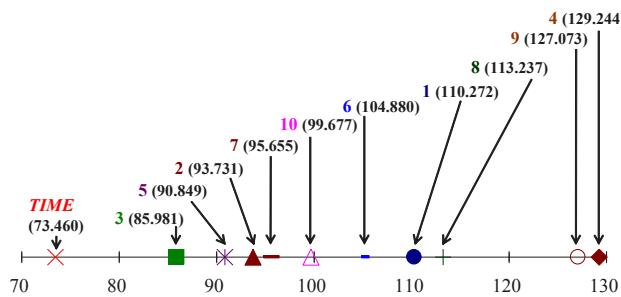
Besides, the value of *K*-characteristic gradually increases in the order of *TIME*, Materials 3, 5, 6, 1, 8 and 9. This order corresponds with the coefficient *c* for word-appearance, as well as the intervals of the values of *K*-characteristic and those of the coefficients *c* for word-appearance are similar. In addition, the values of *K*-characteristic for 10 materials for environmentology being higher than *TIME* magazine is the same as the cases of coefficient *c* for word-character, and coefficients *c* and *b* for character-appearance. We would like to investigate the relationship between *K*-characteristic and the coefficients for word- and character-appearance in the future.

3.3 Degree of Difficulty

In order to show how difficult the materials for readers are, we derived the degree of difficulty for each material through the variety of words and their frequency. That is, we came up with two parameters to measure difficulty; one is for word-type or word-sort (D_{ws}), and the other is for the frequency or the number of words (D_{wn}). The equation for each parameter is as follows:

$$D_{ws} = (1 - n_{rs} / n_s) \tag{3}$$
$$D_{wn} = \{ 1 - (1 / n_t \ * \ \Sigma n(i)) \} \tag{4}$$

where n_t means the total number of words, n_s means the total number of word-sort, n_{rs} means the required English vocabulary in Japanese junior high schools or American basic vocabulary by *The American Heritage Picture Dictionary* (American Heritage Dictionaries, Houghton Mifflin, 2003), and $n(i)$ means the respective number of each required or basic word. Thus, we can calculate how many required or basic words are not contained in each piece of material in terms of word-sort and frequency.

Thus, we calculated the values of both D_{ws} and D_{wn} to show how difficult the materials are for readers, and to show at which level of English the materials are, compared with other materials. Then, in order to make the judgments of difficulty easier for the general public, we derived one difficulty parameter from D_{ws} and D_{wn} using the following principal component analysis:

$$z \ = \ a_1 * D_{ws} \ + \ a_2 * D_{wn} \tag{5}$$

where a_1 and a_2 are the weights used to combine D_{ws} and D_{wn}. Using the variance-covariance matrix, the 1st principal component z was extracted: [$z = 0.7071 * D_{ws} + 0.7071 * D_{wn}$] for both the required vocabulary and the basic vocabulary, from which we calculated the principal component scores. The results are shown in Figure 4.

Figure 4 Principal component scores of difficulty.
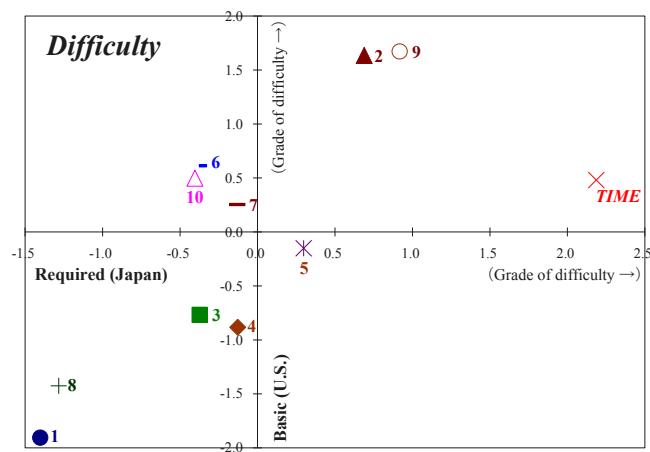
According to Figure 4, in the case of the required vocabulary, *TIME* is by far the most difficult of all the materials. The most difficult of the environmentology materials is Material 9, and the second most is Material 2. Their difference is small. On the other hand, the easiest is Material 1, and the second easiest is Material 8. The difficulty of 5 materials, that is, Materials 3, 4, 6, 7 and 10, is very close, whose principal component scores range from -0.4042 to -0.1277.

As for the case of the basic vocabulary, Materials 9 is the most difficult, and Material 2 is the second most of all. These two materials are far more difficult than other 9 materials. *TIME* is the fifth most difficult, whose difficulty is almost equal to Material 10 and very similar to Materials 6 and 7. Also in this case, Material 1 is the easiest, and Material 8 is the second easiest.

Therefore, we might say that while the materials for environmentology are easier to read than *TIME* for Japanese, some environmentology materials are more difficult than *TIME* for Americans.

3.4 Other Characteristics

Other metrical characteristics of each material were compared. The results of the "average of word length," the "number of words per sentence," etc. are shown together in Table 1. Although we counted the "frequency of prepositions," the "frequency of relatives," etc., some of the words counted might be used as other parts of speech because we didn't check the meaning of each word.

3.4.1 Mean Word Length

As for the "mean word length" for 10 materials for environmentology, it varies from 5.722 letters for Material 8 to 6.271 letters for Material 2. 7 materials are a little longer than *TIME* (6.008 letters). It seems that this is because the materials for environmentology contain many long-length technical terms for environmentology such as CONTAMINATION, DEFORESTATION, ENVIRONMENTAL and PRESERVATIONIST.

3.4.2 Number of Words per Sentence

The "number of words per sentence" for Material 2 (20.375 words) is the fewest of 10 materials. This is the only material that is fewer than *TIME* (20.889 w.). Other 9 materials are 22.554 w. (Material 5) to 28.347 w. (Material 4). From this point of view, in addition to the result of the difficulty derived through the variety of words and their frequency, the materials for environmentology seems to be rather difficult to read as a whole.

3.4.3 Frequency of Relatives

The "frequency of relatives" for 10 environmentology materials is 2.092% (Material 10) to 3.616% (Material 6). Their average is 2.825%, which is a little more than that for *TIME* magazine (2.488%). Therefore, we can assume that as the materials for environmentology tend to contain more complex sentences than *TIME* magazine, they are more difficult to read than *TIME*.

3.4.4 Frequency of Auxiliaries

There are two kinds of auxiliaries in a broad sense. One expresses the tense and voice, such as BE which makes up the progressive form and the passive form, the perfect tense HAVE, and DO in interrogative sentences or negative sentences. The other is a modal auxiliary, such as WILL or CAN which expresses the mood or attitude of the speaker. In this study, we targeted only modal auxiliaries. As a result, the "frequency of auxiliaries" of 10 materials for environmentology varies from 1.048% (Material 4) to 2.398% (Material 10). All 10 materials contain more auxiliaries than *TIME* (1.002%). Therefore, it might be said that while the writers of the books on environmentology tend to communicate their subtle thoughts and feelings with auxiliary verbs, the style of *TIME* magazine can be called more assertive.

3.4.5 Frequency of Personal Pronouns

The "frequency of personal pronouns" for 10 environmentology materials is 1.513% (Material 9) to 6.225% (Material 3). Their average is 3.943%, which is about 1.5% fewer than *TIME* (3.943%). Only 2 materials, Materials 3 and 8, contain more personal pronouns than *TIME* magazine.

Table 1 Metrical data for each material.

	1. Carson	**2.** DesJardins	**3.** Friedman	**4.** Gore	**5.** Hansen	**6.** Levin	**7.** Lomborg	**8.** Lovelock	**9.** Nordhaus	**10.** Stern	*TIME 2010*
Total num. of characters	60,825	170,456	138,038	127,594	126,656	123,980	153,737	101,152	96,905	105,839	129,888
Total num. of character-type	73	76	82	75	76	74	78	70	77	75	81
Total num. of words	10,221	27,180	23,643	21,402	20,953	19,803	25,864	17,678	15,664	17,835	21,975
Total num. of word-type	2,542	3,553	4,331	4,081	3,546	3,469	4,019	3,485	2,382	2,884	5,896
Total num. of sentences	437	1,334	956	755	929	746	1,064	639	644	690	1,052
Total num. of pararaphs	99	257	165	183	237	130	261	108	133	146	221
Mean word length	5.951	6.271	5.838	5.962	6.045	6.261	5.905	5.722	6.186	5.934	5.911
Words/sentence	23.389	20.375	24.731	28.347	22.554	26.546	24.308	27.665	24.323	25.848	20.889
Sentences/paragraph	4.414	5.191	5.794	4.126	3.920	5.738	4.077	5.917	4.842	4.726	4.760
Repetition of a word	4.021	7.650	5.459	5.244	5.909	5.709	6.435	5.073	6.576	6.184	3.727
Commas/sentence	1.156	1.112	1.504	1.470	1.268	1.643	1.157	1.271	1.107	1.333	1.269
Freq. of prepositions (%)	16.900	14.667	14.411	16.877	14.590	16.178	15.270	16.033	15.444	16.829	15.225
Freq. of relatives (%)	2.309	3.363	3.072	2.990	2.860	3.616	3.076	2.749	2.119	2.092	2.488
Freq. of auxiliaries (%)	1.057	1.932	1.216	1.048	1.407	1.398	1.659	1.431	1.303	2.398	1.002
Freq. of personal pronouns (%)	3.525	3.761	6.225	4.048	4.324	3.538	4.239	5.496	1.513	2.765	5.402

3.5 Word-length Distribution

We also examined word-length distribution for each material. The results are shown in Figure 5. The vertical shaft shows the degree of frequency with the word length as a variable. As for the 10 materials for environmentology, the frequency of 2- or 3-letter words is the highest: the frequency of 2-letter words ranges from 15.707% (Material 5) to 18.923% (Material 10), and that of 3-letter is 16.144% (Material 2) to 20.483% (Material 8). Although the frequency decreases until the 6-letter words, the frequency of 7-letter words such as NATURAL, NUCLEAR and SCIENCE is 0.171% (Material 7) to 1.525% (Material 6) higher than that of 6-letter words in half of the environmentology materials.

Figure 5 Word-length distribution for each material
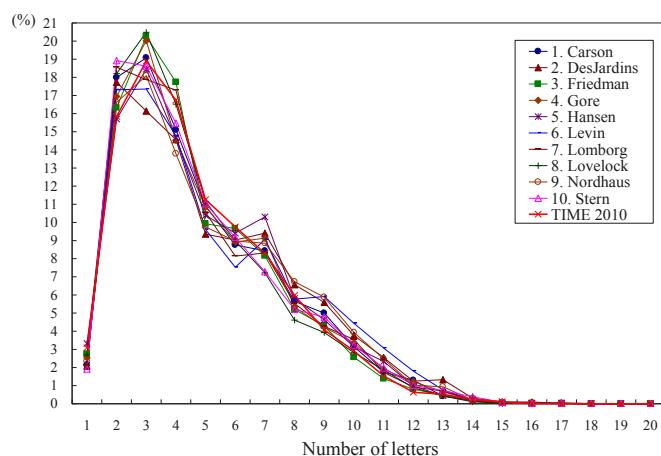
Besides, *TIME* magazine have higher frequency than 10 environmentology books in 5- and 6-letter words, and the degree of decrease for *TIME* gets a little higher than the environmentology materials after the 8-letter words.

3.6 Correlation of the Number of Words with Characters, Sentences and Paragraphs

We checked the correlation of the total number of words with the total number of characters, sentences and paragraphs for 10 materials for environmentology. The results are shown in Figure 6. While the principal shaft shows the total number of characters, the secondary vertical shaft shows the total number of sentences and paragraphs with the total number of words as a variable.

Figure 6 Correlation of the total number words with the total number of characters, sentences and paragraphs.
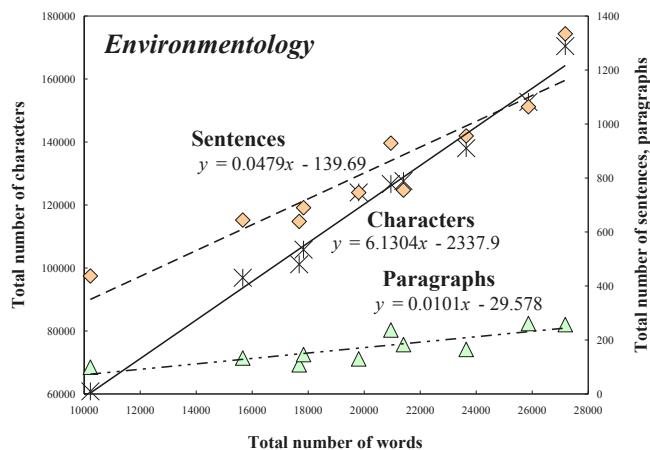
According to the figure, we can see a strong positive correlation between the total number of words and that of characters. We can also see a positive correlation between the total number of words and that of sentences, as well as the total number of words and that of paragraphs, although each correlation is a little weaker than in the case of the characters. For values of 10 materials, approximations shown in the Figure 6 were provided. Therefore, if we know the total number of words for a certain material for environmentology, we can estimate the total number of characters using the function $[y = 6.1304x - 2337.9]$, the total number of sentences by $[y = 0.0479x - 139.69]$, and the total number of paragraphs by $[y = 0.0101x - 29.578]$.

4. Conclusions

We investigated some characteristics of character- and word-appearance of some famous English books on environmentology, comparing these with *TIME* magazine. In this analysis, we used an approximate equation of an exponential function to extract the characteristics of each material using coefficients c and b of the equation. Moreover, we calculated the percentage of

Japanese junior high school required vocabulary and American basic vocabulary to obtain the difficulty-level as well as the *K*-characteristic. As a result, it was clearly shown that English materials for environmentology have the same tendency as English literature in the character-appearance. The values of the *K*-characteristic for the materials for environmentology are high, compared with *TIME*. Moreover, some books are more difficult than *TIME*.

The results of this study will help to clarify the transition of vocabulary, which leads to identify the date of writing. Besides, they will be useful for identifying the writer, genre, and region of writing. In order to improve the reliability of identification, we need to accumulate the analysis results.

In the future, we plan to apply these results to education. For example, we would like to measure the effectiveness of teaching the 100 most frequently used words in a writing beforehand.

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CUSTOMERS' ATTITUDES TOWARD ENVIRONMENTALLY FRIENDLY PROGRAMS IN RESORTS

by

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Abstract

The purpose of the present study was to identify the customers' attitudes toward environmentally friendly programs in resorts which resorts are membership of Green Leaf Foundation. In this study the research used quantitative method to measure the importance of environmentally friendly programs attributes used in resorts and customers' intention to stay at resorts. Questionnaires collected from 500 customers who had spent at least one night at resorts. A principal component analysis was conducted on the 35 variables to ensure that the variables were not intercorrelated and that the variables were grouped properly. After analyzing, the variables of environmentally friendly program, the data with principal component analysis of factor analysis to delete the intercorrelations among the variables and results were seven factors with 33 variables: 1) Environmental Purchasing (seven variables), 2) Community and Awareness (four variables), 3) Water Conservation & Biodiversity Program (seven variables), 4) Saving Energy in Guestroom (five variables), 5) Amenities Program in Guestroom (three variables), 6) Solidwaste & Water Program in Housekeeping (four variables), and 7) Energy Program (three variables). The findings indicated that factor 4 - Saving Energy in Guestroom has the most critical attributes of environmentally friendly programs at resort from the attitude of customers. The results of ANOVA indicated that there was a significant difference in customers' intention based on age.

Keywords: Behavioral Intention, Customers' Attitude, Customer Satisfaction, Environmentally Friendly Programs, Resorts

1. Introduction

For the last few decades, concerns about environmental degradation have been increasing (Chan and Lam, 2002). The public has been recognizing the seriousness of environmental problems/disasters, causing their concerns for the environment to become broader (Krik, 1995: Roberts, 1996). As consumers have been recognizing the importance of protecting our environment, environmentalism has become a major issue in the marketplace. Environmental concerns and awareness have led to great changes in consumer buying behaviors and attitudes toward eco-friendly business establishments (Environmentally Friendly Hotels, 2008; D'Souza and Taghian, 2005).

As more resort guests are becoming increasingly concerned regarding the environment and end environmentally friendly products, it is crucial for the lodging industry to explore the concept of green resorts in more detail. Therefore, many resort executives, managers, and employees should increase more educated on environmentally friendly products and services in resort. Resorts need to determine if consumers intend on choosing resorts based on their green initiatives and if they intend on becoming actively involved in the resorts' green initiatives. It is important for resorts to decide what role they will play in environmental conservation.

A green resort is an environmentally friendly resort establishment that practices green principles and programs (e.g., water and energy savings or the reduction of solid waste and emissions) to help save the environment as well as to improve the hotel's effectiveness (e.g., cost saving). The term, "green" is alternatively called "eco-friendly", "environmentally responsible", or "environmentally friendly" (Pizam, 2009). According to the theory of consumer demand (Lancaster, 1996), consumers make decisions about a particular product or service based on the attributes that make up, or the characteristics of, the product or service as a whole.

There is a little research conducted about environmentally friendly program in resorts. In other words, there is a little management theory or empirical results exist to guide resorts in maximizing their efforts to successfully implement environmental friendly programs. The resort industry is among the most energy intensive sectors of the tourism industry. Whether resorts start going green, it can decrease a resort' rate of energy and water consumption. However, the conversion process can require large sunk costs for energy efficient and water efficient appliances, as well as higher operating costs associated with purchasing environmentally cleaning supplies and recycled paper products. These costs may be passed on to customers or travelers through higher room rates. What are the critical factors of environmentally friendly programs at a resort from the attitude of customers? Are customers willing to pay a premium to stay at a green resort?

The aimed of this research was to identify the customers' attitudes toward environmentally friendly programs in resorts which resorts are membership of Green Leaf Foundation. The current study will aid researchers as it will add a model to the body of literature that has been developed to test the relationships of environmental variables and the dependent variable, intention to engage in green behavior regarding choosing a green resort or utilizing green programs at resorts.

Hypotheses

H_1: Saving Energy in Guestroom factor has the most critical attributes of environmentally friendly programs at resort from the attitude of customers.

H_2: Environmentally friendly factors have positive impact to customers' intention to stay at resort.

H_3: There is a significant difference in environmentally friendly factors based on customers' demographics profile (gender, age, and income).

H_4: There is a significant difference in customers' intention based on customers' demographics profile (gender, age, and income).

2. Literature Review

2.1 Green Resorts in Thailand

The Green Leaf Foundation was officially founded and registered on the 17th of March 1988. The Green Leaf Foundation was jointly established by the six organizations that include: The Tourism Authority of Thailand, Thai Hotels Association, United Nations Environment Program, Demand Side Management Office of Electricity Generating Authority of Thailand, Association for the Development of Environmental Quality, and Metropolitan Water works Authority. They objective is to help hotels and resorts improve their efficiency is saving energy, water and other resources. They focus on facilitating the efficient use of energy and natural resources under the theme "Save Money, Save Environment" (Green Leaf Foundation, 2009). Green Leaf Program is a part of Green Leaf Foundation's activities which transforms an environmental vision into practices by more than 83 hotels and resorts in 2012 in Thailand which have received Green Leaf Certificate. It will help encourage hotels and resorts to continue to upgrade the environmental standards which lead to sustainability.

Green Leaf Certification is a classification program for hotels and resorts that rates environmental efficiency with the goal of promoting environmental quality and preservation. Through a process of completing three auditing questionnaires (screening, qualifying, and grading) followed by verification by an independent team of international organizations, a hotel and resort may be awarded from 1 to 5 green leaves indicating the hotel and resort's achievements in management and resources efficiency.

2.2 The Relationship of Environment Management and Resort

In the hospitality industry, hotels/resorts have been interested in the reduction of solid waste, water consumption, energy consumption and air pollution for environmentally friendly efforts (Shanklin, 1993). It has been estimated that 75 percent of all environmental impacts created by the hotel industry can be attributed to the excessive consumption of local and imported non-durable goods, energy and water, followed by emissions released to air, water and soil (APAT, 2002).

As more environmental rules/regulations appear and individuals' environmental awareness increases, consumers are increasingly searching for eco-friendly hotels or resorts. Consequently, many hotels are beginning to implement various innovative methods to increase the "greenness" of their operations (Dief, and Font, 2010). Green Hotel Association (2008) defined "green hotel" as an eco-friendly hotel operation that performs/follows various environmentally friendly practices/programs such as saving water/energy, using eco-friendly purchasing policies, and reducing emission/waste disposals to protect the natural environment and reduce operational costs.

Recent research suggests that there are different factors that affect environmental commitment for various sectors. Environmental management issues that have been of concern to the hotel/resort industry have been recycling of waste, waste management, energy savings, water conservation, compliance with legislation, purchasing policy and environmental education (Kotler et al., 1999). Among various programs, the researcher reviewed four major categories (energy, solid waste, water, and biodiversity) of management programs that a resort can implement to become an environmentally friendly resort.

2.3 Customers' Attitude toward Green

Uysal, Jurowski, Noe, and McDonald (1994) were one of the first studies the assessing environmental attitude in tourism and their results indicated that environment was influenced by trip behavior but not by demographic characteristics of tourists. Dunlap and Van Liere (1984) found their results were similar to Uysal et al. Noe and Snow surveyed visitors to national parks and their found that park visitors in favor of conservation and preservation had strong environmental attitudes. Formica and Uysal (2002) used environmental attitudes as a segmentation tool of travelers to Virginia and determined attitudes a better segmentation tool than demographic characteristics.

The research on travelers' attitudes toward environmentally friendly hotels and guest rooms is limited to a few studies. Watkins (1994) indicated that frequent travelers would stay in hotels with environmental strategies, but they would not be willing to pay a premium for those rooms. Watkins added that travelers might consider such green attributes as recycling bins, energy-efficient lighting, using recycled paper for promotional materials, changing sheets only when requested, and turning off lights in unoccupied guest rooms.

2.4 Behavior Intention

Resort services can be possibly perceived by potential customers as high risk. Accordingly, resort customers may rely heavily on their past experience with services a specific resort provides when making decisions. Some recent studies identified the important role of past experience/behavior in customers' intention formation for the product that has the highly intangible nature (e.g., meeting participation or destination choice) (Lam and Hsu, 2006; Lee and Back, 2007). Within resort service-purchase decision situations, an individual's past experience may be strongly related to his/her intentions to revisit a hotel, to engage in word-of-mouth behaviors, and to pay more. Resort customers who have stayed at a green resort have had opportunities to experience various eco-friendly services and may be aware of what is available. Customers who have never stayed at a green resort, on the other hand, may not be aware of various services/benefits available at a green resort.

Environmental concern has been found to affect intentions to purchase or to act in environmental ways as shown in the previous literature discussed (Czap and Czap, 2010). Dolnicar (2010) found that the environmental concern to be a predictor of intention to engage in green behavior. This study explored how environmental concern, altruism, moral obligations, age, and income were related to pro-environmental behavior by conducting an online survey. The study found that all theses constructs have a positive relationship with environmental behaviors.

The literature has discussed the important role of demographic characteristics to understand consumer behaviors better in many fields. Specifically, numerous studies have verified gender, age, education, and income as significant affecting factors in explaining customer buying behaviors (Evanschitzky and Wunderlich, 2009; Im et al., 2003; Laroche et al., 2001). The literature also showed several studies that tried to identify the linkage between customers' purchase intention and customers' characteristics, specifically with regards to gender, income, and age (Homburg and Giering, 2001).

Gender differences have been investigated extensively in the consumer behavior literature. Generally, the literature suggested that males and females differ in their

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consumption patterns and behaviors. The impact of gender on buying behavior is generally acknowledged in marketing and consumer behavior studies. Han et al. (2009) identified that gender has a significant moderating role in customer's eco-friendly decision making processes. Han and Ryu (2006) identified gender differences in upscale restaurant customer's decision-making process.

Age is another important determinant of buying behaviors. The impact of age on purchasing behaviors has attracted considerable research attention. Age is also another personal characteristic that has received considerable research attention. Researchers in various fields have investigated age differences in consumer behavior and concluded that age-related differences in purchasing behavior and decision making do exist (Evanschitzky and Wunderlich, 2006; Im et al., 2003). Younger individuals are likely to be innovative when adopting a new product or service and the interaction with a new provider (Im et al., 2003). A theory related to information processing indicated that younger individuals tend to search more for new or alternative information (Evanschitzky and Wunderlich, 2006).

Income is the third important demographic variables in the process of decision making and environmental purchasing that identified in the previous literature. Firat (2009) believed that people performing environmentally friendly behavior earn a higher income than those who do not perform environmentally friendly behaviors. Keaveney and Parthasarathy (2001) stated that consumers with higher levels of education and income have more capability to develop sophisticated and credible estimations of what to expect from a product/service, thus their buying behaviors and expressed intentions are dissimilar to lower income and less educated consumers.

3. Methodology

The target population was the customers who stayed at the green resorts which resorts are the membership of the Green Leaf Foundation. The researcher used the convenience sampling method to collect the data. The sample size in the study was 500 customers who stayed at the green resorts.

A self-administered questionnaire was developed from a thorough literature review. Researcher revised the environmentally friendly programs from Kim (2008) to provide more clarity and appropriate for this study. The environmentally friendly programs selected are based on a previous environmental checklist developed for the lodging industry (Defranco and Weatherspoong, 1996) and Accor hotels environment charter (The Accor Group, 2006). The questionnaires had three parts: 1) Customers' attitude about the importance of the Environmentally Friendly Programs in resorts, 2) Customers' Intention to Stay at Green Resort, and 3) Customers' Demographic Profile.

The researcher used the convenience sampling method to collect the data. The sample population in the study was 500 customers who had spent at least one night at resorts which resorts are the membership of Green Leaf Foundation. There were ten resorts in the five provinces (chonburi, petchaburi, kanchanaburi, samutsonkarm, and prachuabkhirikhan). The quantitative method was used to collect the data from the customers who have spent at least one night at resorts which resort are the membership at Green Leaf Foundation.

4. Results

The researcher collected data from 500 customers who had stayed at least one night at resorts which are membership of Green Leaf Foundation. Of the 500 questionnaires distributed, 69 (13.8%) were returned incomplete and were not included in the data analysis, and 431 (86.2%) questionnaires were usable. The respondents consisted of 219 female (51%) and 212 male (49%). The questionnaires were used in this study consisted of three parts: 1) importance of environmentally friendly attributes, 2) customers' intention to choose green resort, and 3) customers' demographic profile.

A principal component analysis was conducted on the 35 variables to ensure that the variables were not intercorrelated and that the variables were grouped properly. In this study, the value of Kaiser-Meyer-Olkin (KMO) was 0.939, and verified that the use of factor analysis was appropriate in the study. Bartlett's test of sphericity value Chi Square (χ^2) was 7547.056, with p = 0.000, indicating that the data was suitable for factor analysis. After analyzing, the variables of environmentally friendly program, the data with principal component analysis of factor analysis to delete the intercorrelations among the variables and results were seven factors with 33 variables (Figure 1). The first factor was labeled as "Environmental Purchasing", consisted of seven variables. The second factor was labeled as "Community and Awareness", consisted of four variables. The third factor was labeled as "Water Conservation & Biodiversity Program", consisted of seven variables. The fourth factor was labeled as "Saving Energy in Guestroom", consisted of five variables. The fifth factor was labeled as "Amenities Program in Guestroom", consisted of three variables. The sixth factor was labeled as "Solidwaste & Water Program in Housekeeping", consisted of four variables. The seventh factor was labeled as "Energy Program", consisted of three variables. (Table 1).

Figure 1 Conceptual Model of Environmentally Friendly Program

Environmentally Friendly Program Factors
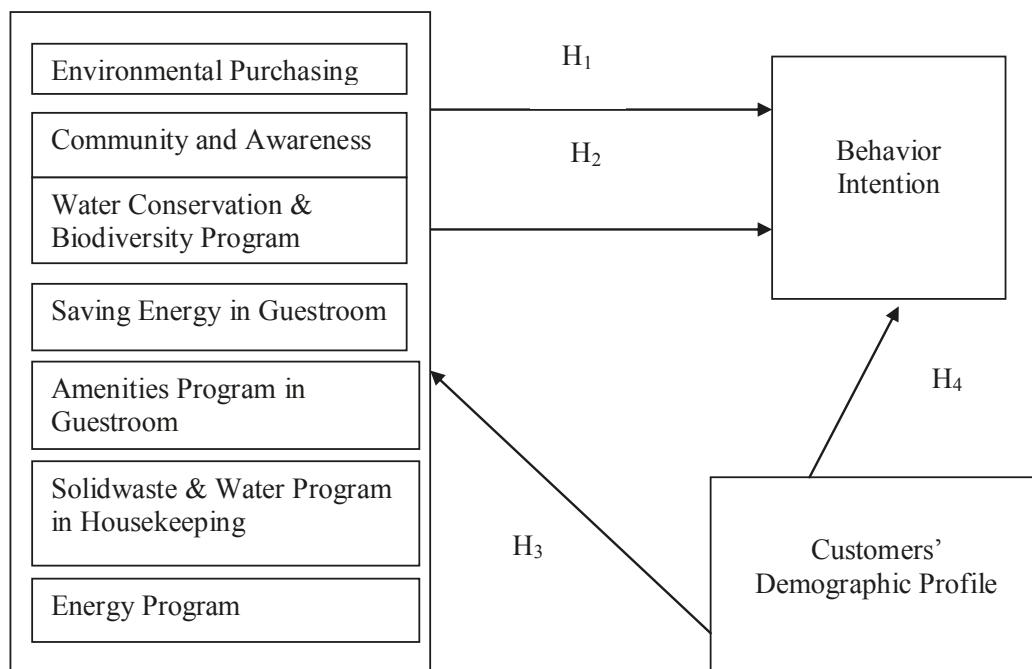
Table 1 Factor Analysis of Environmentally Friendly Attributes

Factor	Factor Loading	Eigenvalue	Variance Explained (%)	Cumulative Variance (%)	Cronbach's alpha
Factor 1: Environmental Purchasing		13.053	37.293	37.293	0.858
Having an active recycling program established for guests and employees.	0.532				
Having a composting program.	0.578				
Utilizing environmentally responsible cleaners throughout the property.	0.741				
Having air filtration in place or at least available for guestrooms.	0.646				
Using paper products bleached without chlorine.	0.533				
Using paper products which have been made from the recycling of other products.	0.583				
Giving preference to products which are environmentally responsible.	0.440				
Factor 2: Community and Awareness		1.783	5.094	42.387	0.811
Having a team with authority and resources taking responsibility for environmental management.	0.610				
Having a training system in place which teaches employees about conservation.	0.718				
Making its environmental efforts visible to guest	0.739				
Actively participating in an environmental partnership or certification programs.	0.691				

Table 1 Factor Analysis of Environmentally Friendly Attributes (cont.)

Factor	Factor Loading	Eigenvalue	Variance Explained (%)	Cumulative Variance (%)	Cronbach's alpha
Factor 3: Water Conservation & Biodiversity Program		1.627	4.650	47.037	0.842
Using water conserving fixtures.	0.49				
Having an active system to detect and repair leaking toilets, faucets and showerheads.	0.431				
Using wash water known as "grey water" for landscaping purposes.	0.676				
Purchasing locally and/or organically grown food.	0.503				
Giving preference to the selection of environmentally responsible service providers.	0.642				
Reducing use of insecticides.	0.538				
Using plants locally adapted.	0.659				
Factor 4: Saving Energy in Guestroom		1.326	3.790	50.827	0.766
Having refillable amenity dispensers rather than individual bottles for bathroom amenities.	0.476				
Using compact fluorescent bulbs.	0.576				
Using refillable amenities dispensers rather than individual	0.550				
Eliminating refrigerating appliances containing CFCs that are most harmful for the ozone layer.	0.472				
Offering a towel/sheet reuse option to multiple night guests.	0.495				

Table 1 Factor Analysis of Environmentally Friendly Attributes (cont.)

Factor	Factor Loading	Eigenvalue	Variance Explained (%)	Cumulative Variance (%)	Cronbach's alpha
Factor 5: Amenities Program in Guestroom		1.228	3.509	54.336	0.761
Removing unnecessary amenities.	0.687				
Offering vegetable soaps and shampoos.	0.721				
Replacing individual creamer and sugar package with bulk containers.	0.637				
Factor 6: Solidwaste & Water Program in Housekeeping		1.124	3.211	57.546	0.793
Resetting room temperatures after guests depart.	0.658				
Using cloth rags rather than paper towels.	0.498				
Empty garbage can-liners rather than replacing each time.	0.709				
Limit water use while cleaning.	0.704				
Factor 7: Energy Program		1.074	3.068	60.614	0.751
Having energy efficient lighting in place.	0.632				
Having occupancy sensors or timers used to control lighting in intermittent-use areas.	0.824				
Having programmable, thermostats with motion detectors used to control temperature in guestrooms.	0.696				

Note: Kaiser-Meyer-Olkin (KMO) measure of Sampling Adequacy (MSA): 0.939 Bartlett's Test of Sphericity: $\chi^2 = 7547.056$, with p = 0.000

Results of Hypotheses Testing

H_1: Saving Energy in Guestroom Factor has the most critical attributes of environmentally friendly programs at resort from the attitude of customers.

As shown in Figure 2, the survey result rating the important of each attributes of environmentally friendly program using a five-point Likert scale (1= very unimportant, 3 = neutral, 5 = very important). Overall the respondents evaluated thirty-five attributes and gave an average the importance rating of 3.76 to 4.23. The result of hypothesis 1 indicated that the saving energy in guestroom factor has the most critical attributes of environmentally friendly programs at resort from the attitude of customers. The saving energy in guestroom factor consisted of five attributes as following: using compact fluorescent bulbs (mean = 4.23), using refillable amenities dispensers rather than individual (mean = 4.09), having refillable amenity dispensers rather than individual bottles for bathroom amenities (mean = 4.05), eliminating refrigerating appliances containing CFCs that are most harmful for the ozone layer (mean = 4.03), and offering a towel/sheet reuse option to multiple night guests (mean = 3.90). Therefore, hypothesis 1 "Saving Energy in Guestroom Factor has the most critical attributes of environmentally friendly programs at resort from the attitude of customers." was supported.

Figure 2

Mean of Thirty-Five Environmentally Friendly Programs
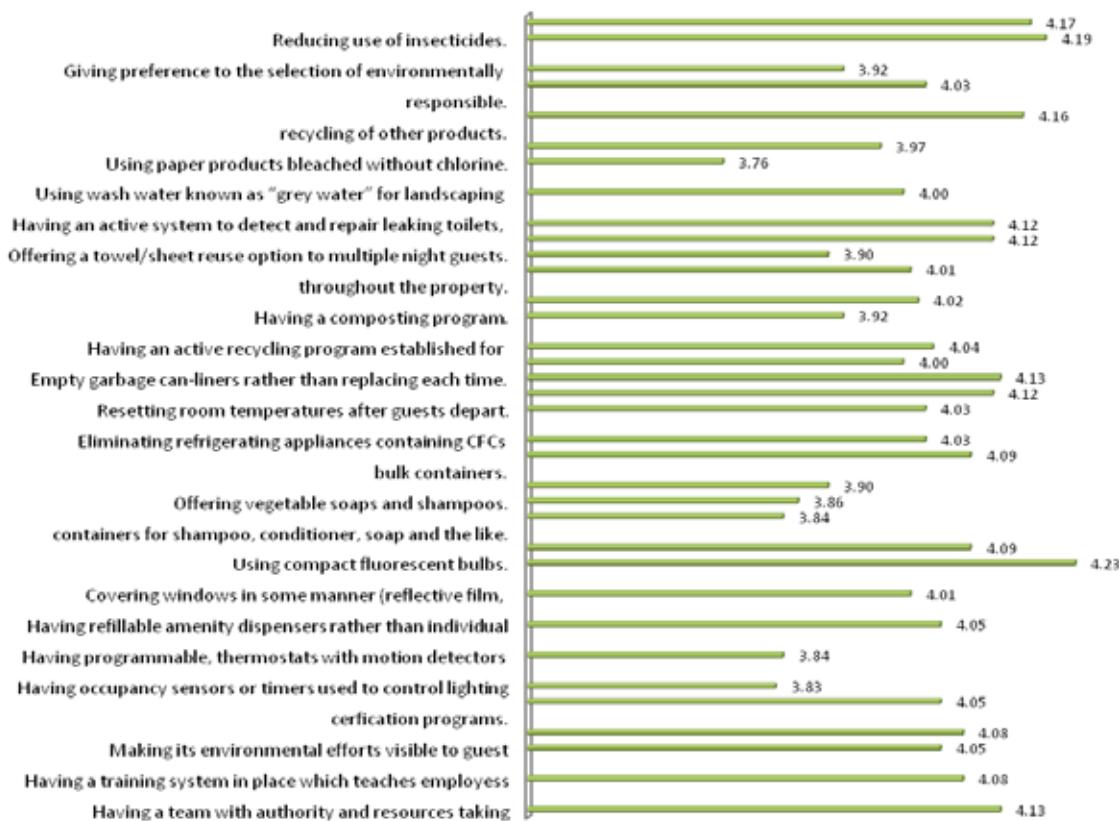
H$_2$: Environmentally friendly factors have positive impact to customers' intention to stay at resort

The result of hypothesis 2 indicated the environmentally friendly factors had positive impact to customers' intention to stay at resort. The results of the regression model indicated that the regression model was statistically significant (F (7, 430) = 18.136, p = .000). The coefficient of determination (R^2) of 0.231 showed that 23% of the customers' intention to stay was explained by the seven factors of environmentally friendly programs. Only six underlying factors: Factor 1 "Environmental Purchasing", Factor 3 "Water Conservation & Biodiversity Program", Factor 4 "Saving Energy in Guestroom", Factor 5 "Amenities Program in Guestroom", Factor 6 "Solidwaste & Water Program in Housekeeping", and Factor 7 "Energy Program" appeared to be significant independent variables that influence on customers' intention to stay.

H$_3$: There is a significant difference in environmentally friendly factors based on customers' demographics profile (gender, age, and income).

One-way ANOVA was used to determine whether there were statistically significant differences in environmentally friendly factors based on customers' demographic profile (gender, age, and income). The result of hypothesis 3 indicated that there was a significant difference in environmentally friendly factor 2 – Community and Awareness, factor 3 – Water Conservation & Biodiversity Program, factor 4 – Saving Energy in Guestroom, factor 5 – Amenities Program in Guestroom.

H$_4$: There is a significant difference in customers' intention based on customers' demographics profile (gender, age, and income).

One-way ANOVA was used to determine whether there were statistically significant differences in customers' intention based on demographic profile (gender, age, and income). This study may be one of only few attempts to empirically assess the impacts of gender, age, and income on intention formation in a green resort. The result of hypothesis 4 indicated that there was a significant difference in customers' intention based on age. The findings were generally consistent with previous studies about gender differences in environmentally conscious behaviors (e.g. Banerjee and McKeage, 1994; Laroche et al., 2001; McIntyre et al., 1993). In addition, a previous study showed that female customers and older customers both have a stronger willingness to pay more for a green resort.

5. Managerial Implication

From a practical standpoint, the findings also provide important information for green resort marketers and advertisers about the characteristics of their target market. To increase its market share, a green resort firm should actively make positioning efforts in the ecologically conscious market. Marketers in a green resort should also actively inform less environmentally conscious groups that eco-friendly purchasing exerts a positive influence on our environment, and convince them that protecting our environment is everyone's responsibility through various media and advertising campaigns. These efforts would motivate the greening of individuals' everyday habits and would eventually enhance their ecological purchasing decision-making.

Dalton et al. (2008) identified that tourists' perceived importance of being environmentally friendly actively express a willingness to stay in an environmental friendly hotel accommodation and to pay extra for the product, cooperating with renewable energy supply initiatives and possible resultant inconveniences. Munoz and Rovera's (2002) findings from the survey with 565 tourists indicated that about 40% of the participants who perceive severity of environmental problems would be willing to pay more for a green resort property.

6. Implication for Future Research

There are several recommendations for future research based on the current study and its findings. There are some discrepancies between the current research and previous literature and research that have been done. The study should be replicated with a different population. A larger and more diverse population (such as resort guests from several resorts in different locations) may result in different, more generalizable findings. Future study may be added other factors that might influence intention and actual behavior of consumers, such as attitudinal loyalty (Carpenter, 2008). Attitudinal loyalty and other constructs, such as willingness to pay more for green products and services, may be used within the parameters of the model and could be added as constructs to the current model.

Future studies can use a systematic approach to further understand the interactions between the variables, and thereby distinguish the relationships between the variables. There are many versions of scales exist that measure green consumption behaviors according to different research needs. A scale that can be used in other industries still needs to be developed, such as a reasonably reliable and valid scale that uses green consumption principles as its foundation.

In the future, research can be done from the perspective of resort workers and managers, exploring topics in the vein of performance variables in other jobs, business efficiency variables, and other cross-human resource management and organizational theories.

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CASE STUDY OF GENERALIZED MATERIAL FLOW COST ACCOUNTING IN CONSIDERATION OF A RATE OF UTILIZATION

by

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Abstract

Recent years have seen environmental issues such as global warning. To that end, attention is being focused on material flow cost accounting (MFCA), which is aimed at gaining an understanding of the amount and cost of industrial wastes and emissions from companies, which place a burden on the environment, and the cost of protecting the environment. The relationship of correspondence between MFCA and traffic accounting is identified, and a generalized material flow cost accounting (GMFCA) is proposed which takes the rate of utilization into consideration. Next, the results of application to Factory Y will be presented, and the results thereof are verified.

Keywords: Material flow cost accounting (MFCA), Generalized material flow cost accounting (GMFCA), Rate of utilization, Traffic accounting

1. Introduction

Recent years have seen global growth of environmental issues such as global warning. Global warming is well known as the phenomenon by which the world average temperature rises due to the rising concentrations of GHGs, particularly CO_2 (Soemon Takakuwa, et al.,

2012). To prevent worldwide worsening of such environmental problems, countries and industry are addressing the need for countermeasures to lower the environmental burden (Hsiao-Fan Wang and Surendra M. Gupta, 2011). However, those enterprise activities in services and manufacturing must consume limited natural resources such as materials and energy, which results in vast emissions of CO_2 thorough their lifecycle. Therefore, the reduction of CO_2 emissions has become a problem to be solved urgently in the services and manufacturing. To that end, attention is being focused on MFCA (Material Flow Cost Accounting), which is aimed at gaining an understanding of the amount and cost of industrial wastes and emissions by materials and energy from companies, which place a burden on the environment, and the cost of protecting the environment (Jasch Christine: 2009; Katsuhiko Kokubu: 2010, Yoshikuni Furukawa: 2003). By using MFCA, we can grasp the scene the amount and cost of industrial wastes and emissions from companies, so that it is expected that the CO_2 emissions at each process are also reduced by minimizing physical inputs such as materials and energy.

In addition, it becomes important that it grasps the rate of utilization of the factory at the manufacturing industry, which is also known and often measured as one of managerial key performance indicators (KPI) at each process in services and manufacturing. When the order that is sudden when the rate of utilization is too high came, there is not surplus energy and cannot cope. On the other hand, a problem that production efficiency increases cost low when a rate of utilization is too low occurs. Therefore, we can make problems at the present clear in the factory by grasping not only MFCA but also the present rate of utilization.

In this study, the relationship of correspondence between MFCA in consideration of an environmental aspect and traffic accounting (Masayuki Matsui: 2004, 2005, 2008, Marukuni et.al: 2010) in consideration of a rate of utilization is identified, and a generalized MFCA is proposed which takes the rate of utilization into consideration. There are two types of generalized MFCAs, a service type and a manufacturing type, and the method of dealing with the MFCA differs between these two types. Next, the results of application to Factory Y will be presented, and the results thereof are verified. Finally, verification is made that the large number of setup operations at Factory Y incurs a great amount of time and cost. Given this, an analysis suitable to the actual conditions at Factory Y is performed, encompassing setup costs. By an analysis that considers setup costs, it will be pointed out that it is not necessarily good simply to have the setup times be short.

The objective of this study is suggestion of GMFCA in consideration of a rate of operation using for MFCA by traffic accounting, and applies it to Y factory as an example and is to check the effectiveness.

2. Accounting system

MFCA

MFCA is a method whereby costs occurring at each process step are classified into good product (related to products that are shipped) and loss (e.g., bad products, wastes, emissions), and the costs at each process step are evaluated, focusing on the losses that occur. MFCA enables the identification of bottleneck processes, at which the greatest losses occur. Because it is possible to grasp the proportion of the overall amount that is attributed to losses, it is possible reliably establish targets for reducing the rate of losses. By evaluating the value

of losses as an amount of money, it is possible to quantify the cost reduction when the rate of losses is reduced to the target. A result of this is that it leads to a determination of the amount of investment as improvement expense for the purpose of reducing losses. In this manner, MFCA provides enterprises with an incentive to tackle the task of reducing waste processing.

MFCA deals with three cost elements, materials costs, system costs, and waste-related costs. Material cost encompasses all costs related to raw materials brought into a factory. System costs refer to labour costs and depreciation cost. Waste-related costs are costs related to waste processing and transport. MFCA provides a representation of the costs related to the three cost elements, classified into good product related costs and loss-related costs. By classifying each of the cost elements into good product related costs and loss-related costs, it is possible not only to identify bottleneck processes, but also to judge which cost element is contributing the most to losses. As a result, it is possible to clearly identify the targets of improvement in the plant.

Traffic accounting

Traffic accounting is an accounting system that incorporates time and utilization rate into production and costs. By considering the rate of utilization, traffic accounting calculates the mean operation expenses, which take into account not only operating expenses, but also expenses related to waiting, idle time expense, overrunning, and lead time, thereby providing an evaluation of the profit per unit time.

Conventional accounting systems either completely ignore factory utilization rates or treat it as being 100%. It is unrealistic, however, to have a 100% factory rate of utilization. Given this, the current research identifies a relationship of correspondence between MFCA and traffic accounting, and proposes a generalized MFCA that considers utilization rate.

3. Development of Generalized MFCA

Generalized MFCA is a model that establishes a correspondence between MFCA and rate of utilization rate and evaluates costs, and is a generalized MFCA with regard to utilization rate. Although there are two types of generalized MFCAs, a service type and a manufacturing type, it is known that the same value of cost is obtained as the MFCA under given conditions.

The rate of utilization and symbol

Symbols are shown to use in the generalized MFCA.
- ρ : The rate of utilization
- p : The processing rate
- d : Demand speed
- m : Production speed
- α_1 : Coefficient on inventory cost
- α_2 : Coefficient on busy cost
- α_3 : Coefficient on idle cost
- α_4 : Coefficient on loss (overflow) cost
- P : The processing rate
- B : The lost-call rate

EC : The mean operating cost per unit time
ER : The sales reward
EN : The net reward per unit time
η : The number of the mean overflows
L : The average number of demand

The mean operating cost per unit time EC is expressed in an expression (1).

$$EC = (\text{Inventory}) + (\text{Busy}) + (\text{Idle}) + (\text{Loss})$$
$$EC = \alpha_1 L + \alpha_2 \rho_0 + \alpha_3 (1-\rho_0) + \alpha_4 \eta \tag{1}$$

$$\rho_0 = \rho P \tag{2}$$

$$\eta = \rho B \tag{3}$$

$$P = 1-B \tag{4}$$

Table 1 shows the method of classifying products and non-products.

Table 1 How to classify products and non-products in the accounts technique

	MFCA	traffic accounting	the generalized MFCA
Product	Quality goods	(P)the processing rate	(ρP) the production rate
Non-product	Loss	(B) the lost-call rate	(ρB) the overflows rate

A service type and manufacturing type

The service type in traffic accounting indicates the case in which the coefficient of busy cost α_2 is larger than the coefficient of idle cost α_3 ($\alpha_2 > \alpha_3$). This is a model in which the demand speed d is held constant, and the production speed m is varied. The manufacturing type indicates the case in which the coefficient of idle cost is larger than the coefficient of busy cost. This is a model in which the demand speed d is held constant, and the production speed m is varied. The manufacturing type indicates the case in which the coefficient of idle cost is larger than the coefficient of busy cost. This is a model in which the demand speed d is varied, and the production speed m is held constant. The differences between the service type and the manufacturing type are shown in Table 2, and the formula for the mean operating cost is shown below.

$$EC = \alpha_1 L + (\alpha_2 - \alpha_3)\rho_0 + \alpha_3 + \alpha_4 \eta \tag{5}$$
$$EC = \alpha_1 L + \alpha_2 + (\alpha_3 - \alpha_2)(1-\rho_0) + \alpha_4 \eta \tag{6}$$

Table 2 Difference between service type and production type

	MFCA	Traffic cost accounting		Generalized MFCA	
		Service	Manufacturing	Service	Manufacturing
Fixed cost	Material cost	Idle cost	Busy cost	System cost	Material cost
Variable cost	System cost	Busy cost	Idle cost	Material cost	System cost
Loss	Loss cost	Overflow cost	Overflow cost	Loss cost	Loss cost

4. A case study for Generalized MFCA

Production process of factory

The Y factory that is subject of this study produces the corrugated cardboard in Japan. It improves it to have chosen the Y factory as an example to find profit while quantity of production in Japan decreases in corrugated cardboard production, and this is because it wants to examine that it finds out the cost cut seeds by GMCFA.

Table 3 The present conditions of the Y factory

The number of the staff (man)	The operating time (sec/day)	Set up time (sec/day)	Productive capacity (sec/man)
17	28.800	11.616	683

Amount of production (piece)	Production speed (sec/piece)	The number of lot (turns/day)	Set up speed (sec/piece)
23.040	0.6	109	0.5

Table 4 The rate of utilization and rate of idle time of each process

Process symbol	Rate of utilization (%)	Rate of idle time (%)
P_1	48.2	51.8
P_2	51.1	48.9
P_3	44.8	55.2
P_4	40.0	60.0
P_5	47.3	52.7
P_6	66.8	33.2

Table 3 is the present conditions of the Y factory. Table 4 shows the rate of utilization and rate of idle time of each process. From Table 4, the rates of utilization in each process at Factory Y are approximately 50%, which is not a very high value. The rate of utilization of each process in Factory Y was measured using the work sampling method. The time required for setup can be cited as a cause of the rate of utilization not being high.

The time required for setup can be cited as a cause of the rate of utilization not being high. Next, Table 4 shows the three cost elements for each process, related to product and loss. From Table 4, it can be seen that process P_1 has the highest loss, making process P_1 the bottleneck at Factory Y. It can also be seen that, of the process P_1, the material cost (cost related to raw materials) has the greatest loss. Thus, it can be envisioned that reducing the raw material waste would be the first step to improvement in the factory. With the supposition that products produced at Factory are shipped on the following day, the inventory cost term on the right side of Equation (1) is made zero.

Table 5 Cost elements in each production process (Unit: Yen)

Process	Material cost		System cost		Material loss cost	
	Product	Loss	Product	Loss	Product	Loss
P_1	18,555	6,309	4,489	1,526	942	320
P_2	5,301	1,484	2,402	673	785	220
P_3	2,650	795	1,091	327	628	188
P_4	0	0	2,166	541	471	118
P_5	0	0	1,028	277	188	51
P_6	0	0	5,834	2,159	126	46
Total	26,508	8,589	17,009	5,504	3140	944

Cost accounting in MFCA

Fig. 1 shows a flow diagram of the material cost at Factory Y, and Fig. 2 shows an overall flow diagram of Factory Y. Next, Table 6 shows the three MFCA cost elements determined from Table 5. The proportion of the overall cost attributed to material cost is 24.37%. Many companies that manufacture products set approximately 10% as the target for the material loss cost. For this reason, the material low cost of 24.37% can be said to be extremely high. Given this situation, by diagnosing the causes for the occurrence of losses, focusing on material costs in the bottleneck P_1 process, it is possible to judge whether or not improvement is necessary. The material loss at Factory Y exceeds 24%, which can be seen as quite a high level of material loss cost rate. A reason for the high material loss can be envisioned as being that the setup times in Factory Y are long. Additionally, because of the long time to change setups, the utilization rates of machines are low. Given this, it can be envisioned that it is important, by making on-site improvements focused on the bottleneck process that was verified by MFCA, to raise the utilization rate.

Table 6 The cost details of MFCA (units: yen)

	Material cost	System cost	Material loss cost	Total
Good Product	26,508	17,009	3,140	46,657
Loss	8,589	5,504	944	15,036
Total	35,097	22,513	4,084	61,693

Figure 1 Flow of the material cost at Factory Y
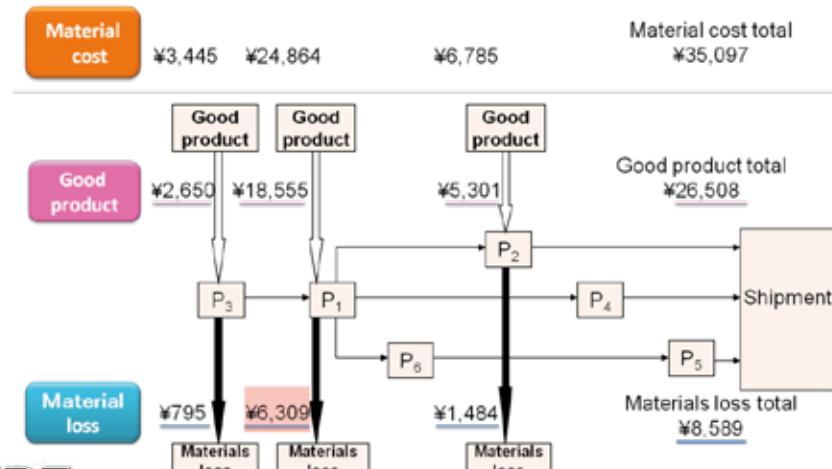
Figure 2 Overall Flows in Factory Y
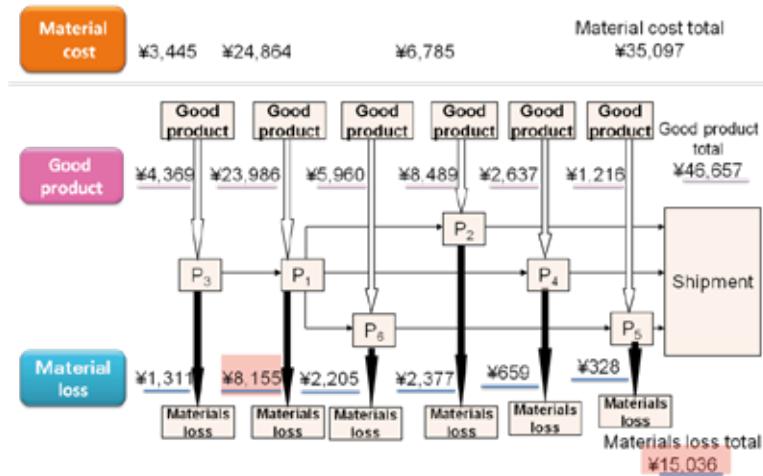
5. A Generalized MFCA case

Service type accounting

The service type indicates the type in which the coefficient of busy cost is larger than the coefficient of idle cost. Consider the case in which the demand speed d is held constant and the production speed m is varied. In the service type, the idle cost is treated as a fixed cost that is constant with respect to the utilization cost, and the busy cost is treated as a variable cost. The material cost is treated as a variable cost and the system cost is treated as a fixed cost. Table 7 shows the three cost elements of the generalized MFCA determined from Equation (5), Table 4, and Table 6. The material loss cost ratio under these conditions was 26.72%, which was a value equivalent the normal MFCA material loss cost ratio. In the service type, this value is the same value as the normal MFCA cost when ρ_0=1.0.

The result was a large difference between the overall cost for MFCA and generalized MFCA. The cause of this can be thought of as being because, with the system cost as a fixed cost, the influence of the material cost reduction is great. The rate of utilization of each of the processes at the Factory Y is not high. Because the rate of utilization is not high, the value of ρ_0 is also low (Table 7). It can be thought that, as a result, the span of reduction of the material cost becomes large, and the overall cost is made small.

In the service type, when ρ_0=1.0, this coincided with the MFCA cost value. Although MFCA accommodates the change amount of raw material used by the changed demand amount, it does not accommodate a change in production speed such as with an expansion of facilities. Thus, MFCA is a model similar to the service type, in which the demand speed is varied and the production is held constant. This means that, with MFCA, because the utilization rate is presumed to be 100%, when ρ_0=1.0 in the service type, this corresponds to the MFCA cost. Table 8 shows the cost details of service type.

Table 7 MFCA of the service type

Process	$\rho_0 = \rho P$	$\eta = \rho B$
P_1	0.32	0.16
P_2	0.37	0.14
P_3	0.32	0.14
P_4	0.30	0.10
P_5	0.34	0.13
P_6	0.42	0.25

Table 8 The cost details of service type (units: yen)

	Material cost	System cost	Material loss cost	Total
Good Product	8864	17009	453	26126
Loss	1999	5504	139	8438
Total	11459	22513	592	34563

Manufacturing type accounting

The manufacturing type indicates the type in which the coefficient of idle cost is larger than the coefficient of busy cost. Consider that the demand speed d is varied and the production speed m is held constant. In the manufacturing type, the busy cost is thought of as being constant with respect to the rate of utilization, and the idle cost is thought of as being a variable cost. The material cost is held fixed, and the system cost is varied. Table 10 shows the cost details of manufacturing type.

Table 9 shows the three cost elements of the generalized MFCA determined from Equation (6), Table 4, and Table 8. The material loss cost ratio under these conditions was 25.31%, which was a value equivalent the normal MFCA material loss cost ratio for the case of the service type. In the manufacturing type, this value is the same value as the normal MFCA cost when $\rho_0 = 0.0$. The overall cost for MFCA and generalized MFCA take values that are close to one another. The cause can be thought of as being because the ratios of utilization of the various processes at Factory Y are not high. In the manufacturing type, because the variable cost is thought of as being $(1 - \rho_0)$, the lower the utilization rate is, the closer the value is to the MFCA overall cost. Thus, at the Factory Y, which has a low utilization rate, it is thought the value taken is close to the MFCA overall cost.

Table 9 MFCA of the manufacturing type

Process symbol	$1-\rho_o = 1-\rho P$	$\eta = \rho B$
P_1	0.68	0.16
P_2	0.63	0.14
P_3	0.69	0.14
P_4	0.70	0.10
P_5	0.66	0.13
P_6	0.58	0.25

Table 10 The cost details of manufacturing type (units: yen)

	Material cost	System cost	Material loss cost	Total
Good Product	26,508	10,898	453	37,859
Loss	8,589	352	139	12,229
Total	35,097	14,399	592	50,088

Comparison of the result of each accounting

Table 11 shows the comparison of the result of each accounting. It shows that the amount of total cost is different from MFCA, GMFCA in a service type and a production type by the influence of the rate of utilization. On the other hand, the point where material loss cost ratio is about the same ratios seems to be useful knowledge. In other words, this result suggests the influence thing that we do not receive in a rate of utilization.

Table 11 Comparison of the result of each accounting (units: yen)

	MFCA	GMFCA	
		service type	manufacturing type
Total Cost	61,693	34,563	50,088
Total Loss Cost	15,036	8,438	12,229
The material loss cost	24.37	26.72	25.31

Analysis in consideration of the set-up time

Evaluation model

In the Y factory, many kinds small lot production is performed. Therefore the setup number of times increases necessarily. In addition, much setup time occurs. Specifically, in the present Y factory, setup time is occupied about half of the one-day work. It is thought that work is promoted efficiency of by shortening set up time in the Y factory, and that we can find more profit there. Therefore, we make a model of GMFCA in consideration of a setup expense and analyse it. In Y factory, we can change the setup time by efficiency of the work and adjustment of the work staff. However, we cannot change the production time. Therefore we analysed the model that setup time is variable, and the model that production time is not variable. And we grasp the rate of utilization that profit becomes maxim. In addition, we use a production type because we change production speed in this analysis.

We show the numerical formula (7) that we used in this model. This model is suitable for a factory that has difficult adjustment of the production speed with change of the production time with the machine and that has difficult enlargement of facilities like the Y factory. We calculate the operating hours of the Y factory by the total of production time, setup time and idle time. In addition, we calculate the net operation time by the total of production time and the setup time. And we calculate the rate of utilization by dividing the operation time for the operating hours. In this model, we fasten production speed. Therefore the rate of utilization changes by changing of the setup time. In this model, if setup time becomes short, the rate of utilization lowers. In addition, the rate of operation becomes higher if setup time becomes long. The production time per day for the fixed number is 13824(sec/

day) of the present value of the Y factory. By using this model, we can grasp a rate of utilization and setup time that profit becomes the maximum.

$$EC = \alpha_1 L + \alpha_2 \rho_0 + \alpha_3(1 - \rho_0) + \alpha_4 \eta + \alpha_5 \frac{\rho_0}{1 - \rho_0} \qquad (7)$$

$$O_{time} = P_{time} \times Output + S_{time} \times S_{numbers} + I_{time}$$

Operation time   Production time   Setup time   Idle time

$$\rho = \frac{P_{time} \times Output + S_{time} \times S_{numbers}}{O_{time}} \quad \left(= \frac{Net - time}{Operation - time} \right)$$

α_5 : Coefficient of expense of set up time
O_{time} : Operation time(sec/day)
S_{time} : Set-Up time (sec/turn)
$S_{numbers}$: Set-Up numbers (turn/day)
P_{time} : Production time(sec/piece)
I_{time} : Idle time(sec/day)

Analysis

We show the utilization analysis of this model in figure 3. Here, an idle expense is an expense to produce the time when facilities and a worker are not active during the operating hours as a loss at an opportunity. An outside order expense is an expense to be caused when the Y factory consign processing to the outside company. When idle time disappeared, we judge that the productive capacity in the factory reached the limit, and an outside order expense is caused. Differences between ER and EC become EN. In figure 3, a part surrounded in ER (soaring straight line) and EC (U character curve of the top) in Y factory is EN. Therefore, it is revealed that profit appears in the range of $0.30 < \rho_0 < 0.80$ in figure 3. From this, we can confirm the thing that there is a break-even point in two points of $\rho_0 = 0.30$ and $\rho_0 = 0.80$. And, at the time of $\rho_0 = 0.63$, it becomes EN=28267, and EN becomes maximum. In addition, at the time of $\rho_0 = 0.63$, the setup time is 5280(sec/ day).

The setup time of Y factory is 12960(sec/ day). Setup time approaches on 5280(sec/ day) by the alteration of number of production lot and the workshop improvement, and we can maximize profit. EN decreases when we shorten setup time than on 5280(sec / day). In addition, EN becomes a minus value when we shorten setup time below 642(sec/ day).Analysis of the models that setup time changes, and production time changes into. In general, it is good that the setup time is short. However, by this model, we can confirm that the profit does not become big so as to be short at setup time.

Figure 3 Analysis of the model that setup time is change and production time is fixing

Profit maximum
ρo＝0.63
Setup time 5280sec
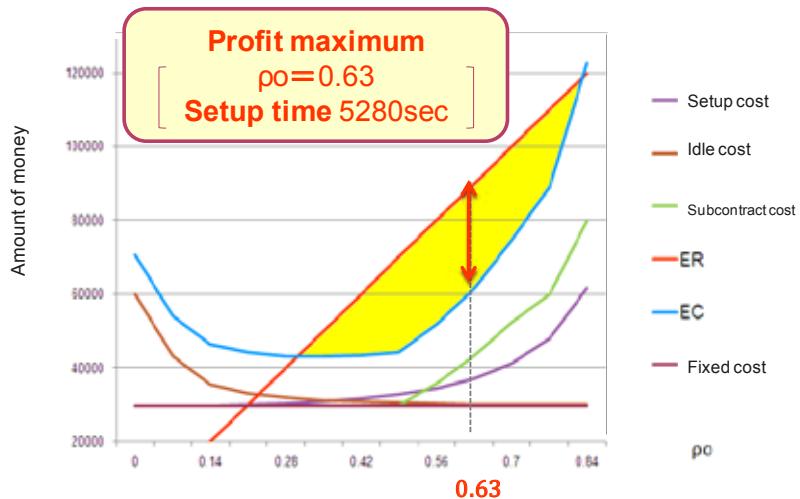
6. Conclusions

In this study, we identified the relationship of correspondence between MFCA and traffic accounting, and proposed a generalized MFCA which takes rate of utilization into consideration in MFCA. Because the generalized MFCA establishes an association between MFCA that considers environment and rate of utilization, this accounting system can be said to more closely approximate the on-site management.

With generalized MFCA, obtaining a grasp of good products, and the production amounts of discarded and lost product for each process assists in making proposals for improvements. In analysis that uses setups, it was possible to discover the rate of utilization that has the maximum gain. Additionally, it was possible to gain a grasp of the setup time for the maximum gain. Thus, by using analysis that considers setup, generalized MFCA acts as on guide when an enterprise makes factory improvements.

MFCA is to make a material loss expense clear in the company, and the recycling gets rid of waste conversion and is an effective tool reducing the loss of waste itself. However, because it is fixed that factory rate of utilization is 100%, it contribute to material loss reduction. It raises the rate of utilization of the factory but it does not contribute to reducing energy cost. Therefore GMFCA plans factory rate of utilization adequacy and can expect it as the management tool which we can contribute to carbon dioxide reduction. Besides, it is the tool which both profit rate improvement and facilities efficiency can examine at the same time.

The future research implication is expansion of GMFCA which is effective by an environmental problem by increasing the number of examples. And remaining work is that we evaluate the increasing and decreasing for facilities and personnel costs when the setup time is varied.

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CONSUMER ATTITUDE TOWARD MOBILE ADVERTISING IN THAILAND

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Abstract

There has been a tremendous and rapid growth in the mobile telecommunication industry in the world, especially in Asia. This paved a new platform for many companies to do their sales promotions through short message system (SMS) via mobile device. SMS has been generally used in mobile advertising. This study employed theory of reasoned action (TRA), to investigate consumer behavior in mobile advertising. This study aims to investigate the behavioral intention to receive and read mobile advertisements, with attitude serving as the mediator. We also examine factors including entertainment, informativeness, irritation, credibility, permission, attitude to advertising in general, and personality. Data were collected from 400 mobile phone users in Bangkok, Thailand. Results show that personality of SMS advertisements has the strongest effect on attitude. Attitude is the major mediator between belief dimensions and behavioral intention.

Keywords: Mobile Devices, Consumer attitude, Advertising

1. Introduction

As the rapid growth of mobile phones and the mobile technology, advertising as one of the significant elements turned out in our modern life (Munusamy, 2007). Mobile phone plays a key role in the communication age and rapidly to be a viable commercial marketing channel. International Telecommunications Union (ITU) reveals that 2009 global mobile phone subscribers growing to 5 billion with the population of 6.8 billion globally. It is predicted that there will send over 6.1 trillion SMS messages in 2010 by the mobile phone users in global (the world in 2010: The rise of 3G 2010). In Asia-Pacific mobile phone

subscribership is also growing fast. In 2005 there were 677.5 million subscribers in Asia-Pacific, Forecast in 2006 it will reach 826.6 million mobile phone subscribers in Asia-Pacific (Sullivan, 2006).

Mobile phone is a highly personalized marketing via messages receiver (Bauer et al., 2005). Mobile devices advertising has a large potential in the intimate nature of the devices very personal and high targeting possibilities (Haghirian, 2005), SMS messages as it's easy and low cost of sending made that 78% of mobile phone users use this capable service (Antoine, 2004). The marketers can get a new opportunities from the ubiquity of SMS-based mobile communications. Even though with the heavily investing in mobile commerce and mobile marketing companies, the nature and implications of this channel have not yet fully understood in Thailand. It needs studies to gain an insight how the utilize of this channel will perform best to make consumers make their intention to receiving and reading mobile advertising as behavior.

2. Research objective

1. To evaluate factors that affect the consumer's attitude toward receiving and reading SMS advertising.

2. To explain and find the important factors that could determine the consumers' attitude towards reading and receiving mobile advertising in Thailand.

3. To examine how consumers' concept of subjective norm affect the behavioral intention of consumer's to receive and read mobile advertising in Thailand.

3. Literature background

3.1 SMS advertising

SMS advertising is marketers utilize the SMS technology to send advertising messages to consumers by the use of a mobile device, it's a part of mobile marketing (Zhang and Mao, 2008), definition mobile marketing may definition of SMS advertising in part apply. Sending information to consumers as SMS or MMS (Multimedia Message Serve) is based of mobile marketing (Kavassalis, 2003).

SMS advertising and includes mobile medium have numerous of advantage that can communication with consumers anywhere and anytime (Tsang, 2004). SMS advertising offers usefulness, cost effectiveness, perceived ease of use, ubiquity, intrusiveness, immediacy and niche targeted to the marketers (Mao, 2008). It use the relevant information to target and provide specific customers, obtain high response rate from the recipients and reduce wastage all of these ability made SMS advertising be amplified (Kavassilis, 2003). In the commercial deployment mobile marketing and SMS advertising are still in the early

stages. Mobile phone technology and SMS advertisements received are may yet not fully accept by consumers (Bauer, 2005).

3.2 Consumer attitude

Attitudes is a predisposition of human beings (Fishbein,1975). Is a part of human behavior of learned predisposition (Kotler, 2000). It's an important concept in information systems and research on marketing. Elaborates attitude to be the emotional feeling attached, an individual personal evaluation and action tendency toward some objects (or ideas) (Kotler, 2000). Attitude towards an object is consumers' beliefs as an internal evaluation (Ajzen,1975). Attitude towards advertising interpret that recipient behavior towards the advertising (Bauer, 1968).

3.3 Behavioral intention

Behavioral intention is an individual's possible behavioral inclination (Ajzen, 1991). Defined as a perceived notion action (Jaccard, 1997). Behavioral intention always regard to future behaviour and it often correlate with overt behaviour (Ajzen, 1975), refer to a person's conscious strength that plans to perform the target behaviors (Mykytyn, 2005). Consumer's behavioral intentions described as a set of multiple (behavioral and non-behavioral) responses (Cronin, 2000). Actual behavior would be predicted when behavioral intentions could correctly measured (Ravichandran, 2010). Behavior of individual's is directed by three thoughts: Behavioral beliefs, which is likely behavior outcomes and it's evaluation.

4. Research framework and research hypotheses

This research propose model and approach is based on the conceptual of Theory of Reasoned Action (TRA) which originally developed by Fishbein & Ajzen (1975). TRA is attempt to provide studies of the relationship between behavior and attitudes in a formulate. Behavioral attitude, subjective norm, intention to purchase or use and actual purchase or usage are the general concepts of adoption behavior, TRA method trying to explain it (Ajzen, 1975). It's often used to explain behavior of the adoption of technology, will be the base of the proposed model used to study the intentions of Thai people's behavioral intention to receiving and reading mobile advertisement.

There are two main determinants of intention in TRA: attitude toward behavior and subjective norms associated with that behavior (Figure 1)

Figure 1 Theory of Reasoned Action (TRA)
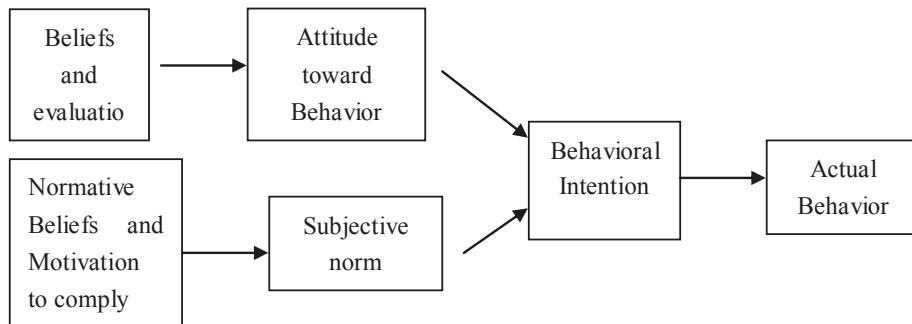
The model describe the psychological process to link individual beliefs, attitudes, intentions, and behavior that mediates the observed relations between attitudes and behavior (Fishbien & Ajzen 1975). The direct effect of beliefs on behavioral intention is not included in the TRA.

The conceptual model of this study based on the theory of Reasoned Action displayed in figure 2:

Figure 2 Conceptual Framework
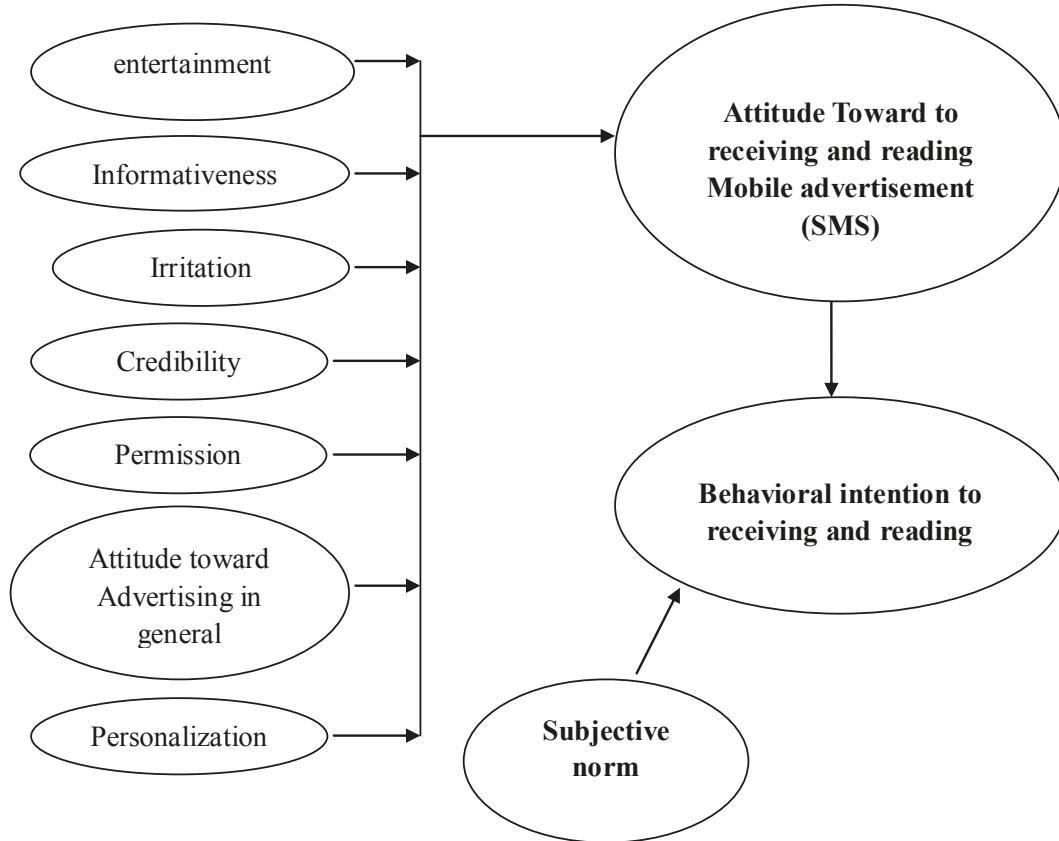
To operationalize the above model the following hypotheses of the effects on the consumers' attitude and intention to receiving and reading mobile advertisement are stated and will be tested in this study:

H1: Entertainment factor of SMS advertisement have effect on consumers attitude toward Mobile advertisement (SMS)

The ability that audience to fulfill their needs for diversion, escapism, emotional enjoyment or aesthetic enjoyment (Ducoffe,1996). It found that entertainment had a positive effect on the attitude towards advertising (Pollay, 1993). Entertainment have the most contribute influenced on mobile advertising (Tsang, 2004). Concise, funny, and could immediately captures consumers' attention is based of entertainment message (Katterbach, 2002). Hedonic pleasure and the mobile marketing of consumers' perceived entertainment utility has positively correlated with the overall utility of consumers' perceptions in mobile marketing, that also has positively correlated with consumer attitudes towards mobile marketing (Bauer, 2005.) The advertising value of traditional advertising have a significantly relation with entertainment of advertising (Ducoffe, 1995).

H2: Informativeness factor of SMS advertisement have effect on consumers attitude toward Mobile advertisement (SMS).

Informativeness is a ability of advertising is that consumers can get inform from product alternatives, which make them yielding the greatest satisfaction in the purchases (Ducoffe, 1996). And the advertising deliver information to consumers, and also a main factor of accepting advertising (Bauer, 1968). Informativeness of the products or service shows perceptions that direct influence to customers. Information deliver needs to show qualitative features for consumer like as timeliness, accuracy, and usefulness to them via mobile devices (Siau, 2003). Inform consumers about products information or make them know that changes in products' price, and new features of existing products it's one of the goals of advertising (Kotler, 2006). Informatiiveness have a strong positively correlated to consumers' attitude towards advertising (Ducoffe, 1996).

H3: Irritation factor of SMS advertisement have effect on consumers attitude toward Mobile advertisement (SMS).

Irritation is that when advertisers competing for consumers' attention there are some tactics advertisers use to annoy to the recipients. While the techniques like offend, annoy, or overly manipulative advertising employed, that makes consumers' perceive unwanted and irritating influence (Ducoffe, 1996), consumers feel indignity when advertisements are addressed, that has a very great influence on consumers' attitude toward advertising (Shavitt, 1998). An array of information which may provide by mobile advertising confuse the recipient and it also as a information to distract and overwhelm consumer (Stwar, 2002). Consumers may feel confused and react negatively. The relationship is negative between consumer perceptions of irritation of SMS advertisement and consumer attitudes towards SMS advertisement (Bracket, 2001).

H4: Credibility factor of SMS advertisement have effect on consumers attitude toward Mobile advertisement (SMS).

Credibility is Consumer's perception towards the truthfulness and believability of advertising in general, it can interpretation as one of the antecedents affecting attitude towards advertising (Mckenzie, 1989). Low credibility of the advertising affected attitude towards advertising the relation of them must negatively (Pollay, 1993). To gaining more credibility personal message is doing better than the messages are sending directly from the advertiser (Wiedemann, 2008). Credibility is the second important factor of mobile advertising affecting the attitude mobile advertising positively (Tsang, 2004).

H5: Permission factor of SMS advertisement have effect on consumers attitude toward Mobile advertisement (SMS).

Consumers permit marketers to educate them on its products that is permission-based marketing (Kavassalis ,2003). In the permission marketing consumers already give their approval to receive information from the marketer (Godin, 1993). Consumers can viewed the mobile advertising that they are acceptance receive already, in the permission-based mobile advertising (Bamba, 2007). Opt-in and opt-out is divide from permission marketing. Consumers authorize messages sent to them is opt-in. Opt-out is proposal that consumers can get the advertisements what they want until they request do not want the advertisements anymore from the advertisers (Gordin,1999). Prior permission is the most important factor that affect the acceptance of mobile advertising in New Zealand (Caroll, 2007). Also prior permission is important for mobile advertising, since mobile phone is to be the highly personal communication tool of user (Baurer, 2005).

H6: Attitude toward advertising in general factor have effect on consumers attitude toward Mobile advertisement (SMS).

Attitude toward advertising in general is if there are some specifically consented receive the advertising messages, otherwise, consumers would have generally negative attitudes towards mobile advertising (Tsang, 2004). In other words, when advertised product or services is favorable attitude toward advertising or permission to consumers, they would have a generally positive attitude toward mobile advertising. Time could changes the general attitude towards advertising from positive to negative (Anderson, 1978). A consistent and stable attitude toward advertising in general that they would be expected held. On another way, as an innovation mobile marketing that few consumers have yet been exposed. Consequently, assumed that consumers' attitudes toward mobile marketing is easily changeable and less stab, to the attitude toward advertising in general, attitude toward mobile marketing has lower resistance and change easier.

H7: Personalization factor of SMS advertisement have effect on consumers attitude toward Mobile advertisement (SMS).

Personalization is "the ability to proactively tailor products and product purchasing experiences individual consumers tastes based upon their personal and preference information" (Chellappa and Sin, 2005). Mobile users prefer the advertisements that they are customized to their interests and relevant to them (Robin, 2003). When recipient would feel being respected when they receive the personalized messages (Xu, 2006). Personalized advertising can enhance consumer satisfaction (Rao, 2003). There is a positively relationship between personalization and attitude towards mobile advertising (Xu, 2008). Personalization would improve the attitude towards mobile advertising.

H8:Subjective norms factor have effect on consumer behavioral intention.

Subjective norm refers to an individual's perception of what important people think he or she should or should not do, and the individual's inclination to comply their specific desires (Ajzen, 1980). Subjective norm use their impact upon intentions to affect behavior. Only when consumers perceive benefit in receiving, reading mobile advertising, they would accept mobile advertising, basic individual can often maximizes their utility in the economic theory (Kavassalis,2003) The mobile advertising utility perception is explained by the "use and gratification" approach (Bauer, 2005). Mobile devices is becoming an important communication tool ,especially in young people, who use mobile devices to reinforce people's social networks (Anon,1999). Contemporary, social need would be a factor which influence intention of individual's to use mobile phone as well as to receive and read mobile advertisements. The behavior positive support perception lends positive intention to perform the behavior, and the construct of subjective norm tends to be the weakest construct in predicting intentions (Armitage, 2001).

H9: Attitude toward Mobile advertisement (SMS) have effect on consumer behavioral intention

Attitude toward Mobile advertisement (SMS)

Attitudes toward mobile advertisement has statistically positive effect on consumers' behaviour intention to receiving and reading mobile advertising. This finding is consistent with past researches. Attitudes as a predisposition of human beings (Fishbein, 1975). Is a part of human behavior of learned predisposition (Kotler, 2000). It's an important concept in information systems and research on marketing. Attitude towards an object is consumers' beliefs as an internal evaluation (Ajzen, 1975) Attitude towards advertising interpret that recipient behavior towards the advertising (Bauer, 1968). Intention is important in between attitude and subjective norm perception toward behavior (Shimp, 1984). Behavior intention also be to strong effect on the relationship between attitude and behavior.

5. Methodology

5.1 Population

The target population for the study includes all Thai consumers in the city of Bangkok, Thailand, who is the mobile devices user.

5.2 The sample

In the sampling stage the study is based on a convenience sample of 400 consumers living in Bangkok. 400 questionnaires were distributed in two big shopping centers in Bangkok: Siam Square and Siam paragon. Out of the 400 distributed questionnaires, 400 were returned and all of them found usable for this study. Table 1 shows the sample demographic of this study.

Table 1 Sample Demographic Characteristics

Demographic	Frequency	Percentage%
Age		
Under 18	14	3.5
18-24	119	29.8
25-30	107	26.8
31-35	72	18
36-40	30	7.5
41-50	45	11.3
Above 51	13	3.3
Education		
High school or below high school	50	12.5
University/College	313	78.3
Master degree or above	37	9.3

5.3 Reliability and validity

The questionnaire reliability was measured by using the Cronbach's Alpha coefficient, and indicates how well items in each set are positively correlated to the others. It establishes the internal reliability of the questionnaire responses (Jaruwacgirathanakul, 2005). The Cronbach's Alpha value with greater than .7 represents high internal consistency reliability (Nunnally,1978).

Validity concerns the assessment procedures and test and the extent to these measure what they purpose to measure. It refers to the degree to that evidence and theory support the interpretations of test scores entailed by proposed uses of tests. This instrument validity was checked by using index of Item-Objective Congruence (IOC) developed by Rovinelli and Hambleton in 1997. The validity test was the Items-Objective Congruence (IOC) >.75(Hair etal.,2006). IOC is a process which is to content the experts' rate the individual items on the scale to the question that measure the exact objectives of the individual items on the scale.

All of the items of this study were greater than 0.75 as valid.

The reliability and validity for all the factors for the pretest displays in Table 2.

Table 2 Reliability test using Cronbach's Alpha and IOC results

Factor	Cronbach's Alpha (Pre-test)	IOC results
Entertainment (4 items)	.891	0.79
Informativeness (4 items)	.865	0.82
Irritation (3 items)	.966	0.76
Credibility (4 items)	.797	0.84
Permission (4 items)	.719	0.91
Attitude Toward Advertising In General (4 items)	.953	0.87
Personalization (4 items)	.86	0.82
Attitude Towards to Mobile Advertisement (4 items)	.92	0.88
Subjective norm (4 items)	.95	0.82
Behavioral Intention (4 items)	.94	0.88

6. Research tool

Questionnaire is the main tool for data collection, a five point likert scales, which running from strongly disagree to strongly agree (1.Strongly Disagree, 2.Disagree, 3.Uncertain, 4. Agree and 5.Strongly Agree) was used employed to measure consumers attitude toward mobile advertising. In this study the agreement scale was regrouped into two categories as Neutral and Agree. Mean and standard deviations of questions used in Likert scale were calculated are summarized in Table 3.

Table 3 Consumers Attitude toward Mobile Advertising

Item	Mean	Std.Deviation	Level of Agreement
Entertainment	3.040	0.767	Neutral
Informativeness	3.386	0.775	Neutral
Irritation	3.600	0.735	Agree
Credibility	3.187	0.728	Neutral
Permission	3.183	0.727	Neutral

Item	Mean	Std.Deviation	Level of Agreement
Attitude toward advertising in General	3.105	0.771	Neutral
Personalization	3.338	0.733	Neutral
Attitude towards mobile advertisement	3.316	0.762	Neutral
Subjective norm	3.068	0.785	Neutral
Behavioral Intention	3.113	0.733	Neutral

7. Hypothesis testing

Multiple regression was employed in this study. Ten hypotheses have been tested and the results are summarized in Table 4 and 5. Mainly hypotheses (H1, H5, H6, H7, H8, H9) were supported, remaining hypotheses (H2, H3, H4) were not supported.

Table 4 Analysis of beliefs of attitude towards mobile advertising

Variable	consumers' attitude toward to mobile advertisement (SMS)					
	Unstandard coefficients (B)	Standardized Coefficients (beta)	t	*Sig	Collinearity Statistics (Tolerance)	Collinearity Statistics (VIF)
(constant)	.037		.153	.878		
Entertainment	.148	.141	2.758	.006	.386	2.594
Informativeness	.085	.070	1.236	.217	.320	3.129
Irritation	-.052	-.050	-1.384	.167	.786	1.272
Credibility	.105	.081	1.587	.113	.389	2.571
Permission	.181	.148	2.469	.014	.281	3.565
attitude toward Advertising in general	.252	.225	4.157	.000	.346	2.887
Personalization	.274	.228	5.069	.000	.502	1.994
R=.776, R²=.603, Adjusted R²=.596, F=84.982						
Note: *Significant level at .05						

It is clear that the results in Table 4 the proposed model explains relative significant percentage of variance in consumers' attitude toward to mobile advertisement (SMS) (R^2=60.3%, F=84.983,p<.05). The data clearly show that four factors were found to be significant (p<.05) while the other three factors were not significant (p>.05). Entertainment, permission, attitude toward advertising in general, personalization have effect on consumers' attitude toward to mobile advertisement (SMS) (R^2=.603). As they were all highly significant factors in explaining attitude towards mobile advertising. And both the tolerance values and VIF in the regression analyses presented above were acceptable, even considering the more conservative cutoff values just mentioned. Hence, there is no indication that multicollinearity may be causing problems for the interpretation of the regression model.

The other three factor informativeness, irritation, credibility has not significant relationship has no effect on consumers' attitude toward to mobile advertisement (SMS), which p value are greater than 0.05.

Table 5 shows the Analysis of the impact of subjective norm and attitude toward to mobile advertisement (SMS) on Consumers behavioral intention by using regression analysis. The links between attitude-intention and subjective norm influence-intention.

Table 5 Analysis of the impact of subjective norm and attitude toward to mobile advertisement (SMS) on Consumers behavioral intention

Variable	Consumers behavioral intention					
	Unstandard coefficients (B)	Standardized Coefficients (beta)	t	*Sig	Collinearity Statistics (Tolerance)	Collinearity Statistics (VIF)
(constant)	.153		1.510	.132		
Subjective norm	.380	.386	9.726	.000	.539	1.855
Attitude toward to mobile advertisement (SMS)	.513	.501	12.604	.000	.539	1.855
R=.814, R²=.662, Adjusted R²=.661, F=389.441,p<.001						
Note: *Significant level at .05						

The results support the hypothesis 8 and 9 links between attitude-intention and subjective norm influence-intention (R^2=.662), attitude towards to mobile advertisement and subjective norm influence consumers behavioral intention, both the tolerance values and VIF in the regression analyses presented above were acceptable, even considering the more conservative cutoff values just mentioned. Hence, there is no indication that multicollinearity may be causing problems for the interpretation of the regression model and that both indicators were far from the customary cut-off points in all cases.

According to the result most of the relationships of the variables which proposed in the model were found to be relevant in this study. Personalization is the main driver of consumer attitude toward behavioral intentions to receiving and reading mobile advertising in Thailand. And the effect of personalization was greater than the effect of attitude toward advertising in general, permission and entertainment. Attitude toward mobile advertisement were more effect on consumer attitude toward behavioral intentions than subjective norm. The result as figure 3.

Figure 3 Result of multiple regression analysis
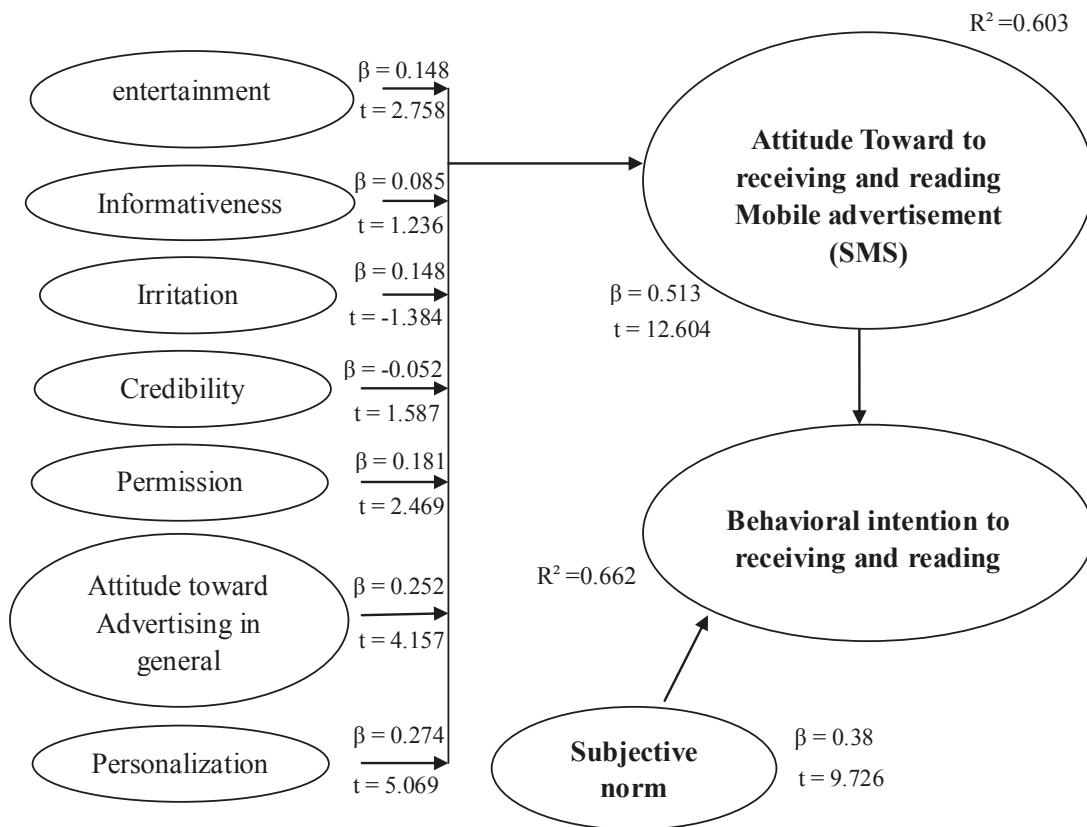
8. Conclusion

The data were analyzed by Descriptive Statistics and Multiple Regression after the collection stage. Variable was evaluated separately in terms of mean, standard deviation, t-value, coefficient, tolerance values and VIF. The hypothesis testing was showed reject and not reject. It based on the t-value, coefficient, and significance. The study result has demonstrated which factors were found to be significant ($p<.05$), entertainment, permission, attitude toward advertising in general, personalization impact consumers' attitude toward to receiving and reading mobile advertising, and consumers' attitude toward to mobile advertisement, subjective norm impact consumers' behaviour intention to receiving and reading mobile advertising in Thailand.

According to the result that attitude was the mainly guide effect intention to receive and read mobile advertisements, and the dimension of Personalization ($\beta=0.274$, t-value=5.069, $p<0.01$) had the strongest effect on respondents' attitudes towards receiving and reading mobile advertising.

9. Implication

This study result made a contribution on investigating the respond of Thai marketers to more understand the factors affecting consumers' attitude towards advertising and make the intention to take action to receive and read mobile advertising and then to use the information of the advertising in Thailand. According to the investigated result that mentioned before. It was very clearly recognize that customer based the personalization factor which strongest effecting consumers' attitude toward advertisement, secondly was factor attitude toward advertising in general, thirdly was entertainment. Consumers' behaviour intention to receiving and reading mobile advertising was effect attitudes toward mobile advertisement stronger than Subjective norm. So researcher present several instructive implications focus on provide suggest to Thai marketers to design a appropriate advertising strategy which can help to promote their products and services in Thailand. Consumers' behaviour intention to receiving and reading mobile advertising was effect attitudes toward mobile advertisement stronger than Subjective norm. So researcher present several instructive implications focus on provide suggest to Thai marketers to design a appropriate advertising strategy which can help to promote their products and services in Thailand.

Among the belief dimensions, Personalization dimension had the strongest effect on respondents' attitudes towards receiving and reading mobile advertising. The results reflect that consumers think that the mobile advertising that they have received and read do not interesting in or it do not relevant to them and the information was not individual for them. If the advertisement that they receiving and reading which they are interesting in and relevant to them sent by marketers employ personalization of mobile advertising in individual way to reach the potential customers, the relationship with consumers would increase. Consumers' attitude and intention to receive and read mobile advertisements will become more positive. suggest some important implications for marketers. To increase acceptance of SMS advertising among mobile users, marketers should work on increasing the personalization of SMS advertising so that the targeted mobile users would develop positive attitudes towards SMS advertising, that would reinforce the consumers' intention to receiving and reading SMS advertisement in Thailand. Thai marketers and Thai communication company could work together to increase the consumers' personalization to increase consumers' intention to receiving and reading SMS advertising.

Entertainment dimension had had effect on respondents' attitudes towards receiving and reading mobile advertising, marketers need to increase the entertainment in the advertisements, make use of the MMS, such as some visul elements, pictures, videos and as well as sound, or more creating humorous SMS advertisements. On the other hand to gain the consumers' permission first, before sending SMS advertisements to random consumers is the success of an SMS advertising campaign (Andersson A, 2000). Consumers' attitude and intention to receive and read mobile advertisements will become more positive.

Thai marketers can strengthening the mentioned dimensions to improve consumers' attitude.

10. Limitation of research

1. This research was primarily related attitude toward mobile advertising in Bangkok, but only people who in Siam Square and Siam paragon in Bangkok were select to respond the questionnaire.

2. Convenience sampling was used in some occasions to select the respondents.

3. The translation of the question might not quite standard for Thai people, make that some respondents confused and affected their answer when they filled out he questionnaire.

4. The number of questionnaires that collected may has some discrepancy in amount, made it hard to control to collect the data in shopping area.

11. Future studies

Several areas have emerged as areas of potential future research. The data collection of this study was done in Bangkok. Mobile advertising has been developed rapid in Thailand, so there maybe have some higher potential markets in Thailand. To investigate the consumers' attitude towards mobile advertising in all Thailand, future studies can be conducted in major cities in Thailand such as Chaingmai.

Although a reasonable percentage of the variance in behavioral intention was accounted by the subjective norm and attitude, there may be factors other than those included in the proposed model. Future study can aim to identify other significant factors affecting the intention.

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QUESTIONNAIRE

My name is FU XIANGQIN, I am Global MBA student at University of the Thai Chamer of Commerce, Bangkok. I am currently conducting a thesis for the Master degree, titled "Consumer's attitude towards to mobile advertising in Thailand. I would be most grateful if you would assist me in my research by taking a few minutes of your time to complete this questionnaire.

Your answer will remain completely anonymous; I personally express my sincere thanks to your assistance and kind cooperation.

Part 1 General information about you, please select the appropriate answer each questions.

1) Your gender
☐ Male   ☐ Female

2) Your age
☐ under 18   ☐ 18-24   ☐ 25-30   ☐ 31-35
☐ 36-40   ☐ 41-50   ☐ above 51

3) Your level of education
☐ High school or below high school
☐ University / College
☐ Master degree or above

Part 2 Please describes your opinion about mobile advertising with the following rating scale: 5.Strongly Agree, 4. Agree, 3.Uncertain, 2.Disagree and 1. Strongly Disagree

	5	4	3	2	1
1.1 Entertainment					
1.1.1 Mobile advertisement is enjoyable					
1.1.2 Mobile advertising is more enjoyable than other media advertising					
1.1.3 Mobile advertisement is pleasant					
1.1.4 Mobile advertisement is entertaining					
1.2 Informativeness					
1.2.1 Mobile advertising provides helpful information					

	5	4	3	2	1
1.2.2 Mobile adverting is good source for timely information					
1.2.3 Mobile advertising is more informative than other advertising sources					
1.3 Irritation					
1.3.1 Mobile advertising is irritating					
1.3.2 Mobile advertising is almost everywhere					
1.3.3 Mobile advertising are often annoying					
1.3.4 Mobile advertising is not vexing					
1.4 Credibility					
1.4.1 Mobile advertising is trustworthy					
1.4.2 I use mobile advertising as a reference for purchasing					
1.4.3 Mobile phones becoming an advertising tool in the future inevitable					
1.4.4 Mobile advertising is more credible than traditional advertising					
1.5 Permission					
1.5.1 Having chance to select whether I will continue receiving similar mobile advertising after reading advertising is good					
1.5.2 I will only receiving advertising message based on prior permission					
1.5.3 Having chance to select whether I will continue receiving similar mobile advertising after reading advertising is important					
1.5.4 After reading the advertising, I still will continue receiving similar mobile advertising					
1.6 Attitude toward advertising in general					
1.6.1 In general, I think advertising is good					
1.6.2 In general, I think advertising is believable					
1.6.3 In general, I think advertising is interesting					
1.6.4 In general, I think adverting is useful					
1.7 Personalization					
1.7.1 I want to receive the mobile advertising only what I am interesting in					
1.7.2 Mobile advertising is available for my preference					
1.7.3 Mobile advertising displays personalized message to me					
1.7.4 Contents in mobile advertising is personalized that I have received					

Part 3 Attitude towards mobile advertising

	5	4	3	2	1
3.1.1 sing mobile advertising is a good idea					
3.1.2 I like mobile advertising because it is creativity					
3.1.3 I support to use mobile advertising because it is useful (to promote the latest products, and promotions)					
3.1.4 I support mobile advertising , it is better than the traditional advertising					

Part 4 Subjective norm

	5	4	3	2	1
4.1.1 Most people who are important to me(e.g. family, lover, friend, colleague, and classmate) think I **should** read mobile ads.					
4.1.2 Most people who are important to me (e.g. family, lover, friend, colleague, and classmate) probably consider my reading of mobile ads to be **wise.**					
4.1.3 Most people who are important to me (e.g. family, lover, friend, colleague, and classmate) probably consider my reading of mobile ads to be **useful.**					
4.1.4 Most people who are important to me (e.g. family, lover, friend, colleague, and classmate) think that mobile ads is **reliable.**					

Part 5 Behaviour intention

	5	4	3	2	1
5.1.1 My intention to receive and read mobile ads is high.					
5.1.2 I will think about using marketing information received by SMS.					
5.1.3 I will definitely reading mobile ads.					
5.1.4 I will receive and read mobile advertisements in future.					

THE EFFECTS OF THE PROJECT MANAGEMENT OFFICE ON COMPANIES PERFORMANCE, A CASE STUDY ON A PROJECT-ORIENTED COMPANY

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Abstract

The purpose of this paper is to investigate the specific role of the Project Management Office (PMO) in a multi-project environment that how we can implement it with more efficiency. Research indicates that project management becomes increasingly difficult when there are many overlapping projects in a project-oriented company, resulting in a need for enhanced governance controls to increase success rates. It caused with implementation of a system that helps project management, the system named Project Management Office (PMO) that is special for companies that are project-oriented and has many overlapping projects. The Project Management Office with a special model that will explain let us to have management of multiple projects efficiently in a project-oriented company. Using a case study to test the method of research found that PMOs perform the PMO effects to different degrees and it is through performing these that the PMO delivers value to the company. After the system implementation, a qualitative evaluation was carried out by a document analysis and questionnaire application. At the end we found that the method has benefit for project management office performance in the company.

Keywords: Project Management Office (PMO), Organizational Project Management, Organizational Performance, Project Management, Project-Oriented Company.

1. Introduction

Recent research indicates that in spite of improvements in the science of project management, only 34% of projects ultimately meet all of the intended goals. Miller and Hobbs (2005) note that "When undertaking a very large project without an adequate management, most

organizations are exposed to a high probability of failure and the resultant significant negative impact". Conversely, it has been shown that companies that follow a specific strategy and demonstrated above-average management had profits which were more than 20% higher than those of companies that followed the same strategy but had poor management.

These studies indicate that strong project management procedures increase the potential of multiple project success. Companies have been faced to problem while doing multiple projects simultaneously, and eventually they could not finish them on time, so for solving this problem, I've prepared this article. We could using to implementation of project management office (PMO) and to use a special model. The Project Management Office (PMO) is an organizational body or entity assigned various responsibilities related to the centralized and coordinated management of those projects under its domain. The responsibilities of the PMO can range from providing project management support functions to actually being responsible for the direct management of a project. The Project Management Office (PMO) is a relatively recent phenomenon, but over the last 10 to 15 years it has become a prominent feature in many organizations. A Project Management Office (PMO), defined by Grey and Larson (2006) as a centralized unit to oversee project management, is often utilized. This literature review of references published between 2000 and 2012 provides mid-level decision makers a synthesis of ideas related to the role and value of the PMO.

Project management office increase the potential for project success is the increasing complexity of the multi-project environment. The project management office is a tool that addresses the need for selecting and managing multiple simultaneous projects in such a manner as to maximize the value obtained.

This paper focuses to investigate the role of the Project Management Office (PMO) in a project-oriented company, with an emphasis on how the PMO is implemented in the company for the promise of increased project success. It is this collection of management, planning and review processes, as well as the associated decision rights that enables the organization to determine and establish performance metrics thus formalizing and clarifying their responsibilities of oversight and accountability (Selig & Waterhouse, 2006). This perspective has become an issue of importance in the project management literature in recent years (Miller and Hobbs, 2005). According to Santosus (2007), PMOs are of value because they "provide the structure needed to both standardize project management practices and to facilitate project management, as well as determine methodologies for repeatable processes".

In this article we would like to introduce these items as my research result:
1. Specification of PMO role in Companies performance.
2. Identification a new model of PMO and implementation it in a project-oriented company.
3. Obtaining of PMO practical contributions in project success.

The paper was to investigate the specific role of the Project Management Office (PMO) for multi-project environment in a project-oriented company, with a special model that we can implement the PMO system according to the model structure; at the end we will have a good result in project performance.

2. Literature Review

The goal of below literature review is to determine how a PMO can facilitate the application of governance principals, in support of greater project success. The intended audience is broad, including: mid-level engineering managers, functional managers and anyone responsible for supporting project efforts and who is responsible for project performance.

2.1 Project Management Office (PMO)

The use of the PMO has a long history dating back to the 1930's (Wells 1999). Recently, the topic of PMO has resurfaced with its strong needs. (Block 1999) discusses key factors to achieving a project office's long-term vision.

The Project Management Office (PMO) as an organizational entity established to assist project managers, teams and various management levels on strategic matters and functional entities throughout the organization in implementing project management principles, practices, methodologies, tools and techniques.

The five PMO stages (Hill, 2004) are also indicative of an organization's maturity in project management:
1. The Project Office
2. The Basic PMO
3. The Standard PMO
4. The Advanced PMO
5. The Centre of Excellence

As described by Dave Beal, Director of IT for the Comcast Oregon Market, the mission of the PMO, by any definition, is to align the various business groups within the enterprise to each other, and to any other PMOs within the organization, so as to ensure that all teams are working from one plan. (Fleming and Koppelman 1998) provide insights on the role of the project office in assisting project teams. (Bates 1998) claims that establishment of a PMO and discusses the PMO manager role and requirements. (Whitten 2000) suggests bettering defining the PMO to get respect from the organization. Englund et al., (2003) declare that "As long as there is a multi-functional environment that requires the simultaneous management of numerous projects; the concept of a PMO remains valid" (p. 10). Hobbs and Aubry (2007) find that one of the key benefits of a PMO is the opportunity to maximize the use of finite resources across the various parallel efforts in a multi-project environment.

Implementing a PMO function may represent a significant change in organizational structure and culture. Institutions develop their unique culture because of the mix of individuals who have shared their common values and work ethics (Hauck, 2007). Engle (2005) suggests that a key goal in developing a PMO program is to develop a structure that supports a systematic, repeatable and documented set of processes. The research of Hobbs & Aubry (2007) and Dai & Wells (2004) demonstrates that PMOs are primarily geared towards doing projects right. Hobbs & Aubry (2007, p.82) found that the two most important PMO functional groups were Monitoring and Controlling Project Performance and Development of Project Management Competencies and Methodologies. These groups included functions such as:

- Report project status to upper management (performed by 83% of surveyed PMOs)
- Develop and implement a standard methodology (76%)
- Monitoring and controlling of project performance (65%)
- Develop competency of personnel, including training (65%)
- Implement and operate a project information system (60%)
- Develop and maintain a project scoreboard (58%)
- Promote project management within the organization (55%)
- Provide mentoring for project managers (49%)
- Provide a set of tools without an effort to standardize (42%)

2.2 Project Management Office Model

A PMO model is the framework used for the design and implementation of a project management office. There are also several models that are typically considered when planning to implement a PMO. Excluding Project or Program level PMO's which focus on delivering a specific project or set of related projects, 'enterprise' or portfolio level PMO's most often fall into one of the following categories.

Dinsmore (1998) proposes five PMO models:
1. Autonomous Project Team (APT)
2. Project Support Office (PSO)
3. Project Management Center of Excellence (PMCOE)
4. Program Management Office (PrgMO)
5. Chief Project Officer (CPO)

There are many services and functions a PMO can provide. While more granular capabilities are often defined, these functions fall into 5 independent categories:
1. Monitoring and Controlling Project Performance
2. Development of Project Management Competencies and Methodologies
3. Multi-Project Management
4. Strategic Management
5. Organizational Learning

These functions have no direct correlation to the types of PMO an organization may endeavor to deploy, but rather server as an overlay of capabilities that may be employed to achieve organizational objectives.

According to previous literature, companies have been faced to problem while doing multiple projects simultaneously, and eventually they could not finish them on time, so for solving this problem, I've prepared this article. We could using to implementation of project management office (PMO) and to use a special model, we were Able to work and do a case study on a project-oriented company, to aid project management Order to manage multiple projects simultaneously and to finish them on time.

2.3 Organizational project management

Organizational project management is the systematic management of projects, programs, and portfolios in alignment with the achievement of strategic goals. The concept of organizational project management is based on the idea that there is a correlation between an organization's capabilities in project management, program management, and portfolio management, and the organization's effectiveness in implementing strategy.

Organizational project management is the application of knowledge, skills, tools and techniques to organizational and project activities to achieve the aims of an organization through projects.

As businesses change at a faster rate, it is becoming increasingly important to execute on projects. Additionally, due to the broad nature of much of the change, projects are affecting larger parts of the organization. Therefore, just as the need to perform projects is increasing, the complexity in executing them is also increasing. Organizational project management draws from the broad base of project management and organizational design applications to understand the organizational processes that affect the ability to manage the delivery of projects.

2.4 Organizational performance

Organizational performance comprises the actual output or results of an organization as measured against its intended outputs (or goals and objectives).

According to Richard et al. (2009) organizational performance encompasses three specific areas of firm outcomes:
1. Financial performance (profits, return on assets, return on investment, etc.)
2. product market performance (sales, market share, etc.)
3. Shareholder return (total shareholder return, economic value added, etc.). The term Organizational effectiveness is broader.

Specialists in many fields are concerned with organizational performance including strategic planners, operations, finance, legal, and organizational development.

In recent years, many organizations have attempted to manage organizational performance using the balanced scorecard methodology where performance is tracked and measured in multiple dimensions such as:
- financial performance (e.g. shareholder return)
- customer service
- social responsibility (e.g. corporate citizenship, community outreach)
- employee stewardship

Performance has its origin in the old French parfournir and is defined today's "something accomplished" (Merriam-Webster's Collegiate Dictionary, (2007). Cameron (1981) suggests that organizational performance be defined as a subjective construct anchored in values and preferences of the stakeholders.

2.5 Project management

Project management is the discipline of planning, organizing, motivating, and controlling resources to achieve specific goals. A project is a temporary endeavor with a defined beginning and end (usually time-constrained, and often constrained by funding or deliverables), undertaken to meet unique goals and objectives, typically to bring about beneficial change or added value. The temporary nature of projects stands in contrast with business as usual (or operations), which are repetitive, permanent, or semi-permanent functional activities to produce products or services. In practice, the management of these two systems is often quite different, and as such requires the development of distinct technical skills and management strategies.

Project management was developed as a leadership concept of interdisciplinary activities with the objective to solve a temporary problem. This characteristic permits the project management to reach a high degree of innovation in the presented solutions to more complex's works (Litke, 1995). Project management according to Abbasi and Al-Mharmah (2000) "is the art and science of planning, designing and managing work throughout all the phases of the project life cycle". It is also regarded as a system or process of planning, designing, scheduling, managing and controlling interconnected project activities in order to achieve specific objectives or goal within a specific time, budget and standards (Lewis, 2007). Project Management is an innovative management practice that tends to achieve stated or specified objectives within specific time and budget limits through optimum use of resources (Stuckenbruck & Zomorrodian, 1987).

According to the Project Management Institute, PMI (2001) a project could be defined as a temporary endeavor to create a unique product or service and project management could be defined as the art of coordinating activities with the objective to reach the stakeholders expectations.

2.6 Project-oriented company

Companies are becoming more project-oriented. Projects are applied in all industries and in the non-profit sector. To perceive a company as a POC is a social construction. Any company (or parts of a company, such as a division or a profit center), which frequently applies projects to perform relatively unique business processes of large scope, can be perceived as being project-oriented.

A POC can be defined as an organization, which
- defines "Management by Projects" as an organizational strategy
- applies temporary organizations for the performance of business processes of medium and large scope
- manages a project portfolio of different project types
- has specific permanent organization units, such as a PM Office and a Project Portfolio Group
- applies a "New Management Paradigm
- Perceives itself, as being project-oriented

As used in this paper, any company or organization pursuing many project efforts at the same

time; where new projects are added as others are completed. Many projects are in various stages of the project life cycle; simultaneously proceeding while overlapping each other and potentially vying for the same resources (Dietrich, Järvenpää, Karjalainen, and Artto, 2006).

3. Research Methodology

We have a Research question that does method has benefit for project management office performance in the company? Qualitative approach was chosen for the given research project, as it allows collecting more wide and rich data, and ensures more flexibility rather than quantitative approach. The case study has been conducted in a project oriented Company. The organization experienced the period of rethinking its PMO. As the company has 3 rather independent projects, 3 cases were recognized for the case study research. The data were collected through interviews with different project's personnel, as well as via survey sent to project managers. Relevant company documentation was studied to increase the validity of findings. The methodological aspect to investigate the role of the PMO in the alignment of management strategies was the case study of a company in the TSTI Company in Tehran.

According to Fig. 1, We began this paper first reviews the literature that was carried out to identify empirical studies of implementations of project management office (PMO), which indicated issues to be investigated in this field, then I began to definition and identify something that related to my paper topic, for example: Project Management Office, Project Management Office Model, Organizational project management, Organizational performance, project management and Project-oriented company, and some problems and difficulties in project management were identified, next I determined a method to implement of project management office (PMO) in projects that was developed by means of action research, and subsequently implemented, and finally using a case study method. Data collection was carried out through interviews, weekly observations, and document analysis.

Figure 1 Diagram of research method
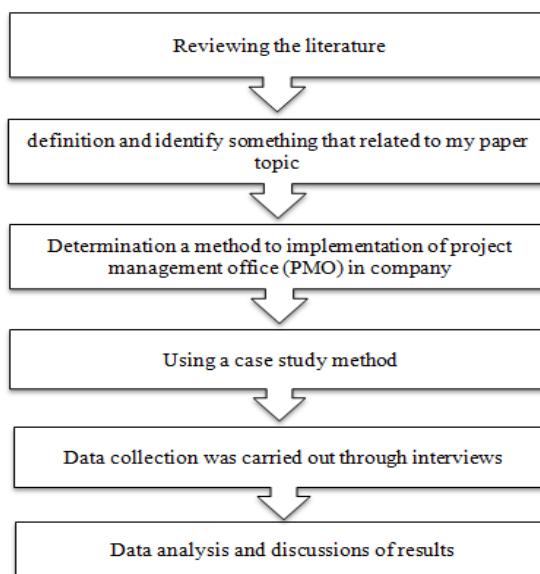
4. Limitation of the study

The limitations to the study are related to the research methodology. The chosen research method does not provide the ground for statistical generalization of findings; however, it allows analytical generalization. The time and resources of the researcher were limited, which constrained the amount of the collected data and number of data sources.

5. PMO assessment model

Implementing a PMO function may represent a significant change in organizational structure and culture. Institutions develop their unique culture because of the mix of individuals who have shared their common values and work ethics. During the consideration of any organizational change, it must be recognized that these stakeholders should be involved in the decision making process for it to be successful.

Based in the analysis of the studied company, it is possible to conclude that the PMO of this company can be characterized as a Project Management Center of Excellence. To this company the PMO is the focal point for project experience, but do not assume the responsibility for the projects results.

The PMO objectives of the analyzed company are the followings:
1. Systematic diffusion of the project management best practices
2. Project management standardization
3. To have a sufficient qualified number of project managers
4. Project management uniform culture
5. To obtain sustainable profitability
6. Improvement of the customer satisfaction (regarding time and quality)
7. Improvement of the project planning security
8. Improvement of the project controls
9. Continuous improvement of the business managed through projects

The PMO functions of the presented company are the following:
1. Providing or arranging PM training
2. Control of the hugest and most important projects
3. Providing project administrative support
4. Develop and maintaining project historical archives
5. Implementation of a project management career
6. Developing and maintaining PM standards and methods

Successful implementation of a Project-oriented company framework requires coordination between the affected parties and may require incrementally implemented new processes. Implementing a well designed process will take into consideration that there are multiple constituencies involved and that balancing their concerns and decision making rights is a key element.

6. Case Organization

The method was implemented at 2012 in Toseae Sanaye Tasisati Iran (TSTI) Company. TSTI Company was established in 1984 by a group of engineers with extensive experience in their respective engineering fields: TSTI Company has gained wide recognition and outstanding reputation through its quality workmanship, innovative engineering and project management skills enabling it to expand from being a mechanical and electrical (M&E) contractor into a full-service engineering and construction contractor catering to major domestic and international clients.

TSTI Company ranks among Iranian's leading engineering and construction firms specializing in Engineering, Procurement and Construction of Mechanical and Electrical Services including: Residential, urban, Industrial, Oil, Gas and Petrochemical Project. The case study is based on the Company's Projects.

7. Data collection

As an advantage of case study method, dealing with contemporary events allows the scholar to use full variety of evidence: documents, archival records, observations, interviews with the people involved, and artifacts. Using of multiple data sources mitigates the potential problem of construct validity.

- Documentation. Relevant document sources such as organizational charts, organizational culture survey results, the company project management procedure, and the company general management procedure were accessed via the company intranet.
- Direct observation. Internal news published in the intranet and press-releases were reviewed in order to overview strategic goals, organizational changes and new directives and inventions related to project management.
- Interviews and Survey. Potential project's personnel of PMO were recognized in each project, and the subject area was discussed with them and The data collected via questionnaire were used descriptively.

8. Results analysis

The analyzed company belongs to the central office and projects segment, having 35 people in TSTI Company in PMO department and has started its activities in the Company 10 years ago.

I used people that had applied the method for presenting a questionnaire in the Company. Figure 2 shows the percentile frequency of the answers regarding to the criteria. Has the system number 1? 28 people of the respondents agreed to number 1 (Providing or arranging PM training), But 7 people were indifferent or disagreed. 32 people agreed that the system has number 2, and 27 people agreed with number 3 (Providing project administrative support). Number 4 (Control of the program implementation status in the departments), the graph shows that 30 people of the respondents agreed with that. Number 5 (Implementation of a project

management training program) 31 people agreed and 30 people agreed with number 6 (Develop and maintaining project historical archives). 32 people of the respondents agreed to number 7 (Implementation of a project management career), But 3 people were indifferent or disagreed and 25 people agreed that the system has number 8.

Based in the analysis of the studied company, it is possible to use of the PMO referred model in the company, because the results shows the referred model has more Efficiency in Comparison with before condition and most of the people are agreed to that according to interview reports.

Figure 2 Results of the answers from the data interview reports
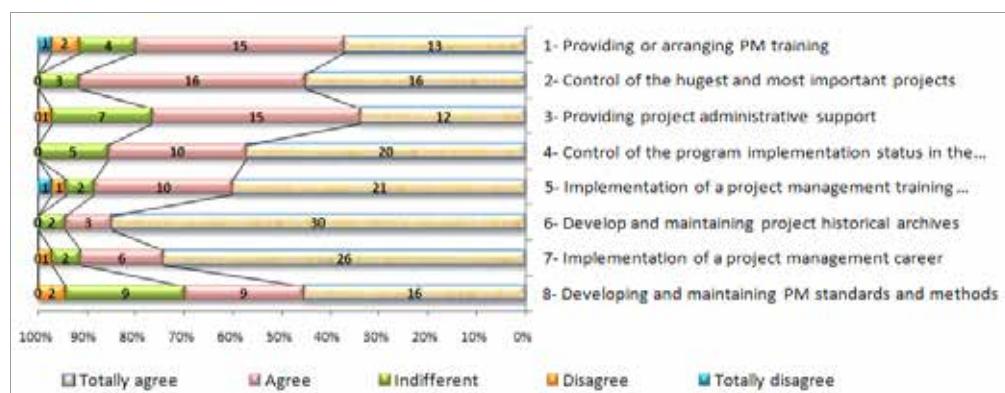
Figure 2 presents the Results of the answers from the data interview reports for the PMO model, including the analyzed enterprise, according to the characteristics of the central office and projects segment of this company.

9. Conclusion

PMO is an organizational entity Implemented to assist project managers, teams and various management levels on strategic matters but, uncertainty level about its role, implementation, relevance and value for the host companies is still considerable. Though the analysis of the studied company PMO's activities, presented previously, it is possible to confirm that the goal of this PMO is, in its great majority, of missionary nature. In this moment the PMO concentrates its efforts in disseminating ideas, in obtaining support for the project management implementation and in preparing methodologies to be used by the project managers.

The purpose of this paper was to investigate the specific role of the Project Management Office (PMO) in a multi-project environment that how we could implement it with more efficiency with a special model. According to the results in above, we saw that most of the people in the company agreed to the system implementation results and we were able to manage several projects well. I've prepared this article because most of companies have been faced to problem while doing multiple projects simultaneously, and eventually they could not finish them

on time, so for solving this problem, we could using to implementation of project management office (PMO) and to use a special model. We could answer to the question that the method has benefit for project management office performance in the company. The review of the literature also makes clear that the research on this topic in general is not yet complete. And certainly there is not total agreement on the success rate of the PMO. To finalize, we argue that the methodology adopted here to analyze the best project management office for a company could be applied to other companies, from different business segments.

The following recommendations are made by the researcher. Summarizing the findings of literatures, the following ideas have to be considered.

- Design a PMO around a company's specific needs and focus on improved project management practices.
- Have a strong PMO leader who promotes the value of PMO.
- Let the services of the PMO be free of charge for the projects.

Following these recommendations would address the most popular challenges PMOs run into, including some mentioned during the interviews: being an overhead cost; being a bureaucratic control unit focusing too much on administration.

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EXPLANATORY POWER DEVELOPMENT OF CUSTOMER SATISFACTION ON REPURCHASE BEHAVIOR IN FASHION RETAILNG

by

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Abstract

In general, when customers are satisfied with a product, service, and/or brand, the possibility of customer repurchase is expected to be stronger. However, previous research indicates that this relationship between customer satisfaction and customer repurchase is difficult to predict and rather complex. This study aims to examine the relationship between customer satisfaction and repurchase behavior by proposing five mediating variables: information sharing, customer trust, customer commitment, perceived product value, and perceived in-store service value, and one moderating variable: gender in order to add more predictive power. 364 existing customers of fashion-clothing retail shops in Bangkok, Thailand, were chosen to collect data. Then, Structural Equation Modeling (SEM) was used for data analysis. This study found a statistical significant mediating effect of customer trust and commitment on customer satisfaction-repurchase behavior relationship. Particularly, the customer satisfaction-repurchase relationship is reduced to non-statistical significance. Variance in repurchase behavior increases from 17% in the non-mediated model to 38% in the mediated model. That is, satisfied customers will have a higher chance of repurchase when the customers' trust toward the retail shop is higher, which in turn results in higher commitment with the shop. Also, this study found that satisfied customers' repurchase rate differs between male and female customers. Important contributions of this study are an establishment of original models and an enhancement of customer satisfaction's prediction powers on customer repurchase. Limitation and recommendation for future research are provided.

Keywords: customer satisfaction, repurchase behavior, information sharing, customer trust, customer commitment, perceived product values, perceived in-store service value

1. Introduction

How to attract customers to buy again is a question that retailers pay their attention to study. The reason is that when customers come back to retailers, retailers will have lower cost due to the decrease of marketing cost and the higher sales volume of increasing purchases. Consequently, retailers can make more profit leading to achieve a competitive advantage (Mittal & Kamakura, 2001; Voss, Godfrey & Seiders, 2010; Wen, Prybutok & Xu, 2011). With respect to the importance of customers' repurchase, previous research generally examines the determinants of repurchase behavior and finds the major roles of customer satisfaction (Curtis, 2009; Cooil *et al.,* 2007; Gustafsson *et al.,* 2005; Mittal & Kamakura,

2001). Because the greater the degree to which a consumer experiences satisfaction with a retailer, the greater the probability the consumer will repurchase the retailer (Curtis, 2009).

However, academics and practitioners have found diverse results in terms of the explanation and prediction power of satisfactions on repurchase response. Specifically, the current research has reviewed and found various degree of the association between customer satisfactions and repurchase from strong to zero effects (Mittal & Kamakura, 2001; Seiders *et al.*, 2005; Tuu & Olsen, 2010; Voss, Godfrey & Seiders, 2010). Therefore, research problem is to understand repurchase behavior, which turns to research questions is "what *factor(s) mediate and moderate the relationship between customer satisfaction and repurchase behavior*."

Specifically, this research reviews literature and develops a conceptual framework and hypotheses including recommendation to conduct empirical research in order to test the research hypotheses. From previous literature review, the effect of satisfaction on repurchase behavior is proposed to be mediated by five following variables: *information sharing, customer trust, customer commitment, product value and in-store service value*. Also, the customer satisfaction-repurchase behavior moderates by *customer gender*.

In order to study the customer satisfaction-repurchase behavior relationship, this research particularly focuses on shoppers of fashion-clothing retail in Bangkok. This is because fashion-clothing retail in Bangkok is now expanding as fashion shopping center in Thailand. Moreover, fashion clothing is categorized as shopping products in which customers are more involved when making purchases (Hourigan & Bougoure, 2012). When shoppers buy fashion clothes, they tend to spend time in searching for information about the products and comparing prices as well as the benefits between different shops before deciding to purchase the products. As a result, buying patterns and reasons to repurchase fashion clothing can be observed and investigated from fashion retail shoppers.

Accordingly, this study, therefore, proposes to 1) develop a modified conceptual framework from the study of the relationship between customer satisfaction and repurchase behavior in fashion-clothing retail shops in Thailand. 2) investigate the mediating and moderating variables on the relationship between customer satisfaction and repurchase behavior. Practitioners may then use the findings from this study to make decisions on what practitioners should accomplish in order to improve customer satisfaction that would result in higher repurchase behavior.

2. Literature Review And Research Hypotheses

2.1 A Review of Customer Satisfaction and Repurchase Behavior Relationship

Generally, repurchase behavior is the concept of customer purchasing again after an initial purchase has been made (Akhter, 2010; Seider *et al.*, 2005; Voss, Godfrey & Seiders, 2010). Seider *et al.*, (2005) define repurchase behavior as a customer purchases his/her product from the same shop where he/she has bought it before.

Customer satisfaction means the degree of overall pleasure felt by the customer resulting from the ability of a product to fulfill the customer's needs (Anderson *et al.*, 1994; Oliver, 1997). Customer satisfaction is the factor which researchers pay most attention to as a

major driver of repurchase behavior (e.g., Akhter, 2010; Curtis, 2009; Gustafsson *et al.*, 2005; Lam *et al*., 2004). That is, satisfactory shopping experiences are generally a requirement for repeat purchase behavior (Curtis, 2009). Tsai *et al.,* (2006) reported that satisfied customers are more likely to continue their purchasing products and services with a particular retailer than dissatisfied ones.

With respect to the literature review, the relationship between customer satisfaction and repurchase behavior are inconsistent. Some findings found that satisfied customers have a possibility not to repurchase product from the same shop despite their previous purchase and satisfying experiences (Seiders *et al.*, 2005; Verhoef, 2003; Voss, Godfrey & Seiders, 2010). However, literature review mostly indicated that customer satisfaction is positively related to repurchase behavior. Satisfied consumers are more likely to continue their relationship with a particular shop than general ones (e.g., Akhter, 2010; Curtis, 2009; Gustafsson *et al.*, 2005; Tsai *et al.,* 2006). According to the arguments above, it can be inferred that consumer satisfaction and repurchase behavior still have positive association between them. The first hypothesis is proposed that:

Hypothesis 1: The customer satisfaction has a positive association with repurchase behavior.

2.2 Mediating Variables

2.2.1 Information Sharing

Information sharing refers to the amount of information shared by the shops to their customers (Godfrey, Seiders & Voss, 2011; Prasad & Aryasri, 2008). Leeman and Reynolds (2012) defined it as the formal or informal sharing of meaningful and timely information during the relationship between retailers and customers. In this study, information sharing was proposed to be a mediator between customer satisfaction and repurchase behavior due to two main reasons.

First, this research found a positive relationship between customer satisfaction and information sharing from shops to their customers (e.g., Godfrey, Seiders & Voss, 2011; Prasad & Aryasri, 2008, 2011). For example, Godfrey, Seiders, and Voss (2011) indicated that sellers usually exchanged product information(i.e. new arrival, discount, promotion offer) with satisfied customers because satisfied customers openly received the information from the shops, had better response, and were willing to exchange useful information about products and services than dissatisfied ones. As a result, the researchers suggested that there was a good relationship between satisfaction and the level of openly shared information with shops.

Second, the literature review also indicated that the amount of information sharing was positively and significantly associated with customer retention (Duncan & Moriarty, 1998; Lages, Lages & Lages*,* 2005; Wirtz & Miller, 1977). Therefore, it was possible that the relationship between customer satisfaction and repurchase behavior might be mediated by information sharing. As a result, the second hypothesis is as follows:

Hypothesis 2: The information sharing mediates the relationship between customer satisfaction and repurchase behavior.

2.2.2 Customer Trust

Customer Trust has been defined as "a willingness to rely on an exchange partner in whom one has confidence" (Moorman *et al.*, 1992) and as "one party's confidence in an exchange partner's reliability and integrity." (Morgan & Hunt, 1994). This research found positive relationships among customer trust, customer satisfaction, and repurchase behavior. Geyskens, Steenkap, and Kumar (1999) stated that satisfying shopping experience could contribute to perceptions of trust. In other words, customer satisfaction was an antecedent to trust in the shop (Garbarino & Johnson, 1999; Ercis *et al.,* 2012; Twing-Kwong *et al.*, 2013; Curtis, 2009). Customer satisfaction is viewed as an essential construct for successfully created customer trust (Ercis *et al.,* 2012). In all, this research proposes that the more customers trust in the fashion clothing shops, the more he or she feels the need to go back to buy fashion clothing from the same shops. It could be concluded that trust could mediate the relationship between customer satisfaction and repurchase behavior. Therefore, this research proposes the third hypothesis as follows:

Hypothesis 3: The customer's trust mediates the relationship between customer satisfaction and repurchase behavior.

2.2.3 Customer Commitment

Literature review defined commitment as a desire to maintain a relationship (Morgan & Hunt, 1994), a pledge of continuity between parties (Dweyer *et al.*, 1987), and the sacrifice or potential for sacrifice if a relationship ends (Anderson & Weitz, 1992). To some others, commitment referred to an enduring desire to continue the relationship with a shop (Twing-Kwong *et al.*, 2013). The importance of customer commitment for explaining customer satisfaction-repurchase behavior relationship has been recognized in the literature (Curtis *et al.*, 2009; Ercis *et al.*, 2012; Morgan & Hunt, 1994).

With regards to satisfaction-customer commitment relationship, previous research indicated that satisfaction is related to commitment (e.g., Curtis, 2009; Ercis *et al.*, 2012). In general, satisfied customers tended to feel more commitment to sellers and were willing to improve and sustain an affective bond with the shop that made consumers feel satisfied and enjoyable (e.g., Ercis *et al.*, 2012; Nusair, 2007). For customer commitment-repurchase behavior relationship, several research studies showed that committed customers have a much stronger behavior to repurchase in a regular shop than general customers. (e.g., Curtis, 2009; Morgan & Hunt, 1994; Wong & Sohal, 2002). Based on the association among these variables, it seems plausible to hypothesize that customer commitment could be proposed as a mediator between customer satisfaction and repurchase behavior.

Hypothesis 4: The customer's commitment mediates the relationship between customer satisfactions and repurchases behavior.

2.2.4 Customer trust and commitment

Previous research also found that customer trust was a predictor of customer commitment (e.g., Garbarino & Johnson, 1999; Morgan & Hunt, 1994; Smith, 1998; Wetzels *et al.*, 1998). For example, Morgan and Hunt (1994, p.24) indicated that "the more customers

perceive trust in a seller, the more he or she is attached to the relationship". This research found that creating repurchase behavior from satisfied customers needed trust as the first priority to build customers' trust in retailers, which then led to commitment in shops. Therefore, this research proposed H5:

Hypothesis 5: Relationship between customer satisfaction and repurchase behavior is first mediated by customer trust and then mediated by customer commitment.

2.2.5 Perceived Shopping Values

Perceived shopping value was defined as customer's overall assessment of the utility of a product based on perceptions of what was received and what was given (Zeithaml, Berry & Parasuraman, 1996). In retail context especially apparel retail, customers' perceived value actually focused on shopping values (Davis & Hodges, 2012; Sweeney & Soutar, 2001; Terblanche & Boshoff, 2004). Perceived shopping value includes product and in-store service value (Davis & Hodges, 2012; Seo & Lee, 2008; Terblanche & Boshoff, 2004). Therefore, perceived shopping value in this research is composed of product and service.

This research found that customer's perceived shopping value and satisfaction were correlated. Previous research showed that perceived value was positively influenced by customer satisfaction (Cronin *et al.*, 2000; Sweeney, Soutar, & Johnson, 1999). In addition, the positive relationship between customer's perceived shopping value and repurchase behavior was found (Patterson & Spreng, 1997; Sweeney & Soutar, 2001). It could be concluded that perceived shopping values are the consequences of customer satisfaction, which lead to higher repurchase rates. This research expects that the relationship between customer satisfaction and repurchase behavior could be better explained by customer's perceived product and service values. Hypotheses are therefore proposed as follows:

Hypothesis 6: The customer perceived product value mediates the relationship between customer satisfactions and repurchase behavior.

Hypothesis 7: The customer perceived in-store service value mediates the relationship between customer satisfactions and repurchase behavior.

2.3 Moderating Variables

2.3.1 Gender

There is a growing body of literature that suggests repurchase behavior is influenced by gender differences (e.g., Cooil *et al.*, 2007; Homburg & Giering, 2001; Mittal & Kamakura, 2001). Cooil *et al.* (2007) indicated that the impact of gender on shopping behavior is significantly different between male and female customers. Female customers are more involved in shopping activities and pay more attention to the consulting services of the sales personnel than male customers. In addition, female's repurchase behaviors are strongly influenced by their emotions such as satisfactorily shopping experience or joy (Homburg & Giering, 2001). In contrast, male's repurchase behavior would rather consider products' utility and price. Therefore, female customers may be more likely to stay with their current clothes shop to avoid risks or costs caused by switching. Based on these reasons, gender might have a moderating effect on the relationship between satisfaction and repurchase behavior. The hypothesis on gender is as follows:

Hypothesis 8: Gender moderates the influence of customer satisfaction on repurchase behavior.

In accordance with the literature reviews above, this research presents conceptual model shown in Figure 1.

Figure 1 Conceptual model developed by literature review
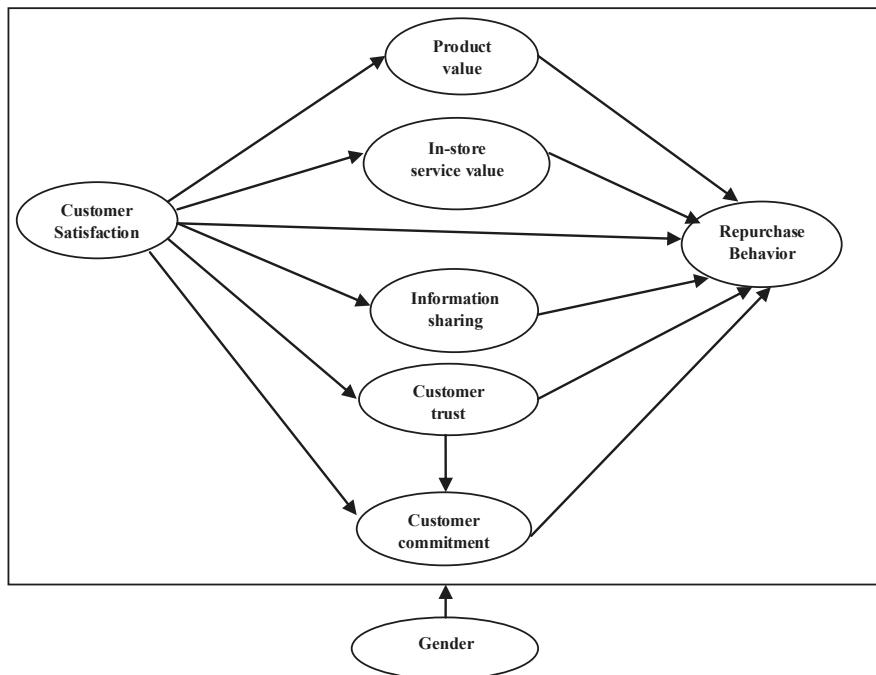
Note: Gender is moderator

3. Research Methodology

3.1 Measures

The measurement scales were adopted and adapted from existing measurement scales after considering consistency and relevancy in definition and importance in meaning. All five latent variables were measured using seven-point Likert scales with "strongly disagree" and "strongly agree" anchoring the scales. First, *customer repurchase behavior* was measured using a combination of six items from a repurchase behavior scale developed by Curtis (2009) and Voss, Godfrey and Seiders (2010). Second, *customer satisfaction* items were adapted from Vesel and Zabkar (2009) who modified the items to measure satisfaction level of retail customers. Third, regarding *information sharing*, all four items were adapted from Rachjaibun (2007). Original items were adapted to use to measure customer' perceived information sharing level in hotel industry because there were consistency and relevancy in information sharing definition and meaning between this research and Rachjaibun's study. Fourth, for 5 items of *customer trust* and 4 items of *customer commitment* were adapted and adopted from Wong and Sohal (2002). Finally, for *product value* and *in-store service value*, all measures items were adapted and adopted from Terblanche and Boshoff's (2004) items.

3.2 Sample and Survey Method

The sampling method was a convenience sample. This research collected data at three areas: Siam square, Ladprao, and Pratunam. This is because these three areas were found in the pilot tests to have a good distribution of sample and covered a variety of clothing shop (high end, medium end, and low end) in Bangkok. The number of questionnaire distribution varied based on the ratio of fashion-clothing shops in each area. The characteristics of the fashion-clothing shops that met research objectives should be as follows: 1) A store with onsite face-to-face and body language interaction between buyers and sellers and 2) A store which sells a popular trend of clothing, branded or unbranded, that most customers follow and are interested in. From the survey, the ratio of fashion-clothing shops which met research objectives in Siam Square (43%) was higher than other two areas which were Ladprao (29%) and Pratunam (28%). This research therefore distributed the 500 questionnaires by dividing into 215 questionnaires in Siam Square, 145 questionnaires in Ladprao and 140 questionnaires in Pratunam, respectively.

The questionnaires collected daily from 500 shoppers at the three areas during 3 periods: peak hours of shopping (11 am. to 1 pm., 2 pm. to 4 pm., 5 pm. to 7 pm.). As this research aimed to understand repurchase behaviors of fashion retail shoppers to receive qualified shoppers, this research asked shoppers the screening questions 1.) In the past 12 months, have you bought clothes by yourself?, 2.) Have you ever bought clothes from the same shop? and 3.) Are you between 18 and 49 years old?

The questionnaire contained three sections. The first section included characteristics of fashion clothing shops. The second section included survey questions related to purchases and five latent variables. All items were measured on a 7-point Likert Scale that ranged from (1) strongly disagree to (7) strongly agree. The last part included demographic questions. After screening data and preliminary analyses, there were 364 useable questionnaires for analyzing Confirmatory Factor Analysis and Structural Equation Modeling.

3.3 Data Analysis

Descriptive statistics were performed to profile the respondent demographic questions. Following the two-step approach recommended by Anderson and Gerbing (1988), a confirmatory factor analysis (CFA) with maximum likelihood was first performed to estimate the measurement model, which determined whether the manifest variables reflected the hypothesized latent variables. Once the measure was validated, a structural equation model (SEM) was used to determine the relationships among customer satisfaction, repurchase behavior and its mediators and moderators by AMOS.

Before the moderation testing, Gender 364 respondents were divided into 121 male and 243 female according to survey response. This study tested the moderation effects in the three steps. First step, this study tests overall model fit, if the two groups are similar in model fit then, second step, the comparison of the chi-square difference test between models is conducted. A two-group model is estimated by comparing chi-square differences between base model and constrained group model to test whether there are chi-square differences overall between two groups. If the two groups are not different in chi-square then there is no need to test the on paths. However, if there is a significant difference in chi-square in this base model versus the constrained group model, this would suggest that a moderating effect

exists between the two groups. Third, testing on path should be conducted by testing the chi-square differences between parameters to determine which parameter can account for such differences. The results of the moderation analysis were discussed below.

4. Results

4.1 Descriptive Statistics

All respondent numbers and percentage classified by location and entire respondents were shown in Table 4.3. Regarding gender of the entire participants, most of them were females accounted for 66.8% and males for 32.2%. Most of the participants were 18-27 years old (44.2%) and had income in the range of less than 10,000 – 20,000 Baht (45%). A large portion of the sample had a bachelor's degree 62.6%. The occupational composition of the respondents was student 32.1%, office worker 30.7%, government official 18.7%, professionals 9.1% and business owner 9.6%.

4.2 Measurement Model

Before CFA analysis, the measurement items were developed to receive final items by eliminating measurement items and latent factors that did not make the model fit well. The elimination criteria were factor analysis, reliability and construct validity. Factor analysis was conducted to identify factor loading and also eliminate some items with high cross-loadings or low loading. The criteria for item elimination were high cross-loadings (>0.4) or low loading (<0.5) (Hair *et al.*, 2010). This study eliminated nine items: RB4, CS1, CS5, TR4, TR5, COM4, QUAL2, QUAL3, and PRICE3 due to high loading on an incorrect variable.

Table2 presented that final scales had high factor loading (from 0.54 and 0.96) and high reliabilities. Cronbach's alpha ranged from 0.82-0.95.The results indicated high internal consistency among the scales within each factor. Also, all AVE values were greater than 0.50 indicating convergent validity (Anderson & Gerbing, 1988). Regarding construct correlation, results of the correlation analysis provide support for the discriminant validity as presented in Table 3. Discriminant validity was evident since the AVE, ranging from .58 to .85, exceeded all squared correlations for each pair of constructs, ranging from .001 to .44.

Then, CFA was used to confirm all the final scale items if there were good measurement model. Results indicated that all measurement models provided a good fit to the data according to the fit index suggested by Hair *et al.* (2010). Hair *et al.* (2010) suggested that p value should be more than 0.05, GFI and AGFI $\geq$0.90, RMSEA< 0.05, CFI and NFI $\geq$0.90.

Table 2 Factor loading, % of variance and Cronbach's alpha of final scales

Items	Measurements	Factor loadings	% of variance	Cronbach's alpha
RB				
RB 1	You often buy fashion clothing from the shop.	0.59	58.82	0.82
RB 2	You own several pieces of fashion clothing	0.66		

Items	Measurements	Factor loadings	% of variance	Cronbach's alpha
	from this shop.			
RB 3	You have visited this shop many times in the last 12 months.	0.56		
RB 5	You use this shop to buy most of your fashion clothes.	0.86		
RB 6	You usually go back to buy fashion clothing from this shop.	0.78		
CS				
CS 2	You feel happy with shopping at this shop.	0.64	72.22	0.86
CS 3	You are satisfied with products and other things from this purchase.	0.98		
CS 4	You enjoy visiting at this shop.	0.98		
INF				
INF 1	This shop usually sends you useful fashion clothing information.	0.91	75.15	0.88
INF 2	This shop usually informs the values or benefits that you get as a customer.	0.79		
INF 3	This shop often asks for your opinion about your experience of shopping fashion clothing in this shop.	0.89		
INF 4	The shop usually asks for your opinion about quality of service.	0.77		
TR				
TR 1	This shop is reliable.	0.81	66.04	0.83
TR 2	You can trust that this shop can do as promised.	0.77		
TR 3	This shop is very honest.	0.86		
COM				
COM 1	The relationship between you and this shop is important.	0.85	85.53	0.91
COM 2	You give importance to the relationship between you and this shop.	0.88		
COM 3	You like to tell others that you are a customer of this shop.	0.73		
PRO				
QUAL 1	Fashion clothing of this shop is good quality fabric.	0.54	69.96	0.88
QUAL 4	Fashion clothing of this shop has high quality.	0.66		
PRICE 1	The price of fashion clothing in this shop is worth the money.	0.93		
PRICE 2	Fashion clothing at this shop offers value for money.	0.96		
PRICE 4	You feel that the price of fashion clothing in this shop is cheaper than other shops.	0.66		
SER				
SER 2	Salespeople of this shop are very willing to serve you.	0.76	72.11	0.90
SER 3	Salespeople of this shop provide you prompt service.	0.91		

Items	Measurements	Factor loadings	% of variance	Cronbach's alpha
SER 4	Salespeople of this shop are polite to provide services.	0.87		
SER 5	Salespeople of this shop are very friendly to customers.	0.79		

Note: RB: repurchase behavior, CS: customer satisfaction, INF: information sharing, TR: customer trust, COM: customer commitment, PRO: perceived product value, SER: perceived service value, INV: shopping involvement, SEEK: variety-seeking behavior

Table 3 Construct correlation matrix

	1	2	3	4	5	6	7	8	9
1.RB	1	0.01	0.03	0.04	0.10	0.09	0.02	0.05	0.00
2.CS	0.12*	1	0.00	0.08	0.03	0.02	0.01	0.01	0.04
3.INF	0.16*	-0.02	1	0.08	0.24	0.11	0.12	0.00	0.00
4.TR	0.21**	0.29**	0.30**	1	0.32	0.25	0.29	0.06	0.03
5.COM	0.32**	0.18*	0.48**	0.56**	1	0.44	0.24	0.12	0.07
6.PRO	0.30**	0.02	0.33**	0.50**	0.67**	1	0.23	0.12	0.09
7.SER	0.14*	-0.07	0.35**	0.54**	0.50**	0.44**	1	0.16	0.00
8.INV	0.21**	0.12*	0.04	0.25**	0.35**	0.31**	0.41**	1	0.00
9.SEEK	0.05	0.21**	-0.08	-0.18**	-0.27**	-0.25**	-0.10	0.18*	1

Note: **$p < 0.01$, *$p < 0.05$.
Values below the diagonal are correlation estimates among constructs, diagonal elements are construct variances, and values above the diagonal are square correlation

4.3 Structural Equation Modeling

4.3.1 Unmediated Relationship of Customer Satisfaction and Repurchase Behavior

In order to test the first hypothesis that was customer satisfaction has a positive association with repurchase behavior, the SEM was first conducted without the mediating effect. The result of the first SEM indicated a good model fit with $\chi2 = 10.812$ with 15 degrees of freedom ($p = 0.766$), RMSEA = 0.02, GFI = 0.99, AGFI = 0.97, CFI = 0.99, and NFI= 0.99.

As this study expected, it was found that customer satisfaction was statistically significant and positively associated with repurchase behavior ($\beta = 0.25$, $p < 0.01$). Therefore, H1 was supported. However, the squared multiple correlation revealed that 17% of the variance in the repurchase behavior was explained by customer satisfaction. That is, the explanatory power of satisfaction on repurchase behavior was 17%. This finding implied that customer satisfaction alone could not fully explain repurchase behavior.

4.3.2 Mediating effect

The five mediators were assessed to determine whether the mediators mediated the relationship between customer satisfaction and repurchase behavior according to three criteria suggested by Baron and Kenny (1986) and Hair *et al.* (2010). As presented in Figure 2, SEM results indicated a good model fit with $\chi 2 = 222.95$ with 224 degrees of freedom ($p = 0.62$), RMSEA = 0.02, GFI = 0.98, AGFI = 0.95, CFI= 0.99, NFI = 0.98. The results did not support the mediating effect for information sharing, product value, and in-store service value but they supported the mediating effect for customers trust and commitment. Therefore, H2, H6 and H7 were not supported whereas H3 and H4 were supported.

This study found two types of mediating effects: partial and complete. When either customer trust or customer commitment mediates the customer satisfaction-repurchase relationship, the partial mediation occurs. However, when the customer satisfaction-repurchase behavior relationship is first mediated by customer trust and then mediated by customer commitment, complete mediation occurs. Particularly, the customer satisfaction-repurchase relationship is reduced to non-statistical significance ($\beta = 0.06$, $p > 0.05$). Variance in repurchase behavior increases from 17% in the non-mediated model to 38% in the mediated model. Thus, this study supported H5. In summary, this study indicated that satisfied customers repurchase because of trust and commitment. More satisfaction in shopping experience at the fashion clothing shop leads to more trust in relationship with shops, which in turn results in higher commitment with the shops. Consequently, they usually go back to buy fashion clothing from the same shops. If customers feel satisfied without feeling of trust and commitment, it is possible that they can change to buy another shop. Trust and commitment are the key factors to increase repurchase rate.

Figure 2 Hypotheses testing results for the conceptual model
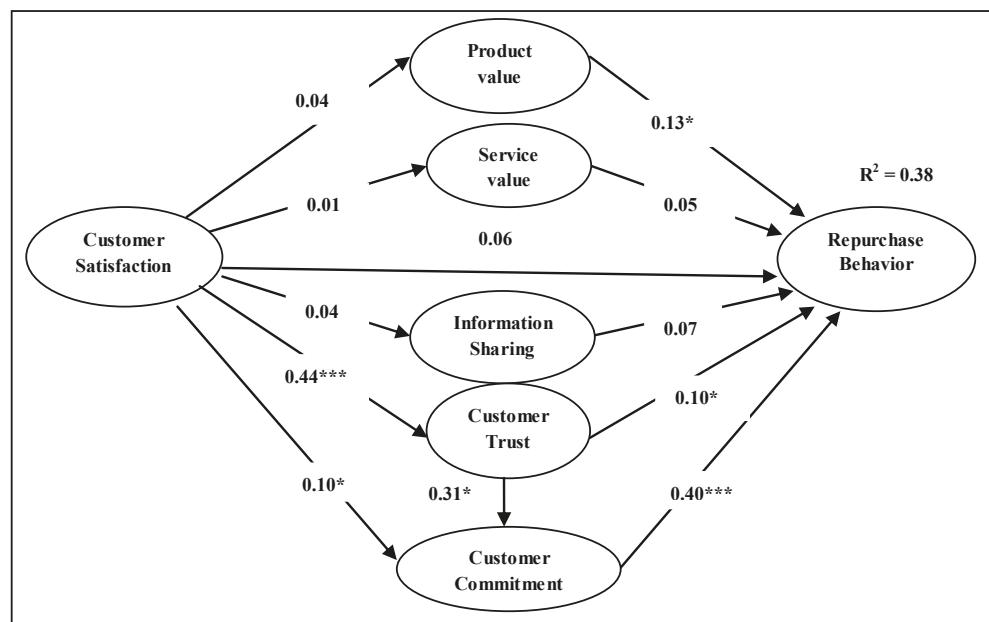
4.3.3 Moderating effect

Concerning moderating effects, the findings found significant moderating effect for gender. Regarding Table 4, base model and constrained group model indicated acceptable fit indices. The difference in $\chi 2$ between the base model and constrained group model was significant ($\Delta\chi^2_{df=5} = 25.21$, $p < 0.01$). That is, there are differences overall between male and female groups. The analytical results thus presented that the moderation does exist. Therefore, this research tested chi-square differences between parameters and presented the results in Table5.

The results showed that three relationships of satisfaction-trust, satisfaction-commitment and trust-commitment were significant differences in chi-square leading to the differences in the two-group model. For female customers, the path of satisfaction-trust ($\beta = 0.38$, $p < 0.001$), satisfaction-commitment ($\beta = 0.24$, $p < 0.01$) and trust-commitment ($\beta = 0.19$, $p < 0.01$) were significant but for male customer, these three paths were not significant as presented in Table6.Therefore, this study supported H8. This study summarized the hypotheses testing into Table 7. The finding supported for H1, H3, H4, H5 and H8 but did not support for H2, H6 and H7.

Table 4 Testing moderation on group model for gender

Model fit	Based model	Constrained group model	Chi-square differences ($\Delta\chi^2$)
Chi- square	110.39	131.60	25.21**
Df	98	103	5
GFI	0.96	0.95	-
NFI	0.95	0.94	-
CFI	0.98	0.98	-
RMSEA	0.02	0.02	-

Note: Base model is non-restrict model in which the two groups were freely estimated. Constrained model is a model in which the path coefficients were constrained to be invariant across the groups.

Table 5 Testing moderation on the paths for gender

Path	Base model χ^2 (df= 98)	Constrained model χ^2 (df= 99)	Chi-square differences ($\Delta\chi^2$)
CS ⟶ TR	110.39	119.78	9.39**
CS ⟶ COM	110.39	115.15	4.76*
TR ⟶ COM	110.39	115.52	5.13*
TR ⟶ RB	110.39	112.38	1.99
COM⟶ RB	110.39	111.18	0.79

Table 6 Chi-square differences between male and female

Path	Male (N=121)		Female (N= 243)	
	Standardized coefficients	*p*-value	Standardized coefficients	*p*-value
CS ⟶ TR	.07	.72	.38	***
CS ⟶ COM	.17	.60	.24	**
TR ⟶ COM	-.001	.98	.19	**
TR ⟶ RB	.41	***	.43	***
COM ⟶ RB	.33	***	.48	***

Table 7 The results of hypotheses testing

Research Hypotheses	
H1: Customer satisfaction has a positive association with repurchase behavior.	Supported
H2: Information sharing mediates the relationship between customer satisfactions and repurchases behavior.	Not supported
H3: Customer's trust mediates the relationship between customer satisfactions and repurchases behavior.	Supported
H4: Customer's commitment mediates the relationship between customer satisfactions and repurchases behavior.	Supported
H5: Relationship between customer satisfaction and repurchase behavior is first mediated by customer trust and then mediated by customer commitment.	Supported
H6: Customer perceived product value mediates the relationship between customer satisfactions and repurchase behavior.	Not supported
H7: Customer perceived in-store service value mediates the relationship between customer satisfactions and repurchase behavior.	Not supported
H8: Gender moderates the influence of customer satisfaction on repurchase behavior.	Supported

5. DISCUSSION

With respect to research problem is to investigate the relationship between customer satisfaction and repurchase behavior in fashion clothing retailing. Although this study confirms previous research that indicated that relationship between customer satisfaction-repurchase behavior was a significant relationship, this relationship appears to be weak and complex. There are several reasons that may affect customer satisfaction-repurchase behavior relationship include a wide range of shopping alternatives, customer characteristics, product types, "situational" shopping, shop environment, satisfaction thresholds, and response bias. Therefore, customer satisfaction alone cannot fully explain and predict repurchase behavior of customers. This current findings support previous research which indicates that satisfaction is not adequate to persuade customers to repurchase from the same shops because there are many factors affecting such relationship (e.g. Curtis, 2009, Hellier *et al.*, 2003; Mittal & Kamakura, 2001; Reichheld & Sasser, 1990; Szymanski & Henard, 2001)

This research found that customer trust and commitment in shop fully mediated the customer satisfaction and repurchase relationship and gender moderated this relationship.

That is, satisfied customers have high possibility to improve repurchase behavior when higher customer trust toward the shop leads to higher customer commitment in the shop. Customers become committed to the shops that they trust (Curtis, 2009). Practitioners therefore must first develop customer trust in order to achieve customer commitment by being sincere and friendly to the customers and/or living up to customers' expectations. Then, practitioners could create customer commitment by making shopping experiences personal to the customers. Practitioners could achieve this objective by, for example, providing member cards or special privileges in order to stimulate customer's feelings regarding the importance of the relationship between them and the shop.

Also, this research found that the effects of customer satisfaction on trust and commitment as well as trust on commitment are significant among female customers but not for male customers. Female customers will likely feel satisfied, trust, and then have commitment in a particular shop. This research recommend practitioners to recognize the differences in shopping behavior between male and female customers and focus in creating customer satisfaction, trust, and commitment among male customers in particular.

6. Limitations And Recommendations For Future Research

Third limitations of this study should be addressed. First, this study studied customer satisfaction-repurchase behavior relationship in fashion clothing retailing, and therefore it may not be applicable to other industries. Future study should study this relationship in other industries to present different repurchase reasons and patterns. Second, in the process of scale development, nine scales were eliminated due to the lack of either reliability or validity or a combination of both. All of these eliminated scales may actually be able to apply to other study contexts and may turn out to be reliable and valid. Third, for information sharing and shopping values, although this study did not support a significant mediating effect, some previous study showed an expected impact of both variables (Duncan & Moriarty, 1998; Shirin & Kambiz, 2011; Tuu & Olsen, 2010; Wirtz & Miller, 1977). Therefore, a reinvestigation on the conditions of significant and insignificant effect of the both variables on the customer satisfaction-repurchase model should be conducted in the future study.

Furthermore, in order to study repurchase behavior, future studies should carefully select appropriate scope (i.e. to focus on a brand or a shop) and the type of products (i.e. convenience goods or shopping products) that have noticeable repurchase patterns. This research recommends the future study to investigate shopping product which is a customer and a considerable involvement product compared to low involvement products such as toothpaste or soap. Also, durable goods like automobile or furniture may not be appropriate because customers hardly get back to buy the product often.

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SUPPLY CHAIN CONFIGURATION COMPARISON OF SUPPLIER EVALUATION ATTEMPTS

by

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Abstract

Existing attempts to classify suppliers, purchasing parts and material flows mainly focus on financial criteria. The result is a mismatch between those suppliers/material flows identified as relevant under current business conditions and those suppliers/material flows that truly have major impacts on logistically relevant drivers. The objective of this paper is to compare suppliers identified as relevant based on an ABC-analysis and on the outcome of a developed, applied and case-tested decision model that considers especially logistically relevant input factors such as the suppliers' geographical position, their influence on the handling of product variants or uncertainty considerations. The decision model developed and an ABC-analysis are applied within a multiple case study in the agricultural industry. The validation approach includes an adapted version of the pattern-matching-technique and statistical means (in particular hit-rates). The comparison of the results of the two supplier evaluation attempts shows that the developed decision model can be an appropriate supplement to an ABC-analysis.

1. Introduction
a growing number of suppliers requires concentration on the most relevant.

Companies operate in global supply chains (SC). In the context of this paper, we subsume under the term 'supply chain' all inter-connected companies that exist upstream of any one company as do Choi & Krause (2006: 638). Global dispersion of the SC in combination with increasing complexity– caused by a highly customized number of product variants – lead to a high degree of uncertainty in SCs especially in times characterized by far-reaching environmental changes. A possible cause of this can be a lack of transparency in the SCs. Volatile and unpredictable market conditions affect a company and worsen the situation. Due to increased market pressure a reduced number of employees have to face more and more complex challenges. As a consequence, attention has to be devoted to identifying those levers in the supply chain (suppliers, internal value drivers and customers) that are most important under current business conditions in order to concentrate scarce resources on them. Because of this lack of time and resources primarily easily accessible financial measures (e.g. annual purchasing volumes, unit price developments, number and costs of complaints) are used for supplier evaluation. The financial value of a single part or the annual purchasing volume of a single

supplier becomes marginally important when it comes to process interruptions or delayed deliveries to customers. As a consequence we are convinced that in addition to financial metrics further criteria are needed to reflect the relevance and effort related to the handling of suppliers and parts. We use the term relevance to mean the potential of a single supplier or part flow to significantly impact the continuous process flow or to lead to additional handling efforts. This impact is expressed by parameters like the suppliers delivery reliability, the specificity of parts delivered or his geographical remoteness from the production facility. These parameters are subsumed under the construct supply chain complexity (SCC). Our assumption is that the higher the degree of SCC that enters the SC because of a single supplier; the higher the probability that this supplier/parts from this supplier lead to higher efforts or disrupt continuous process flows and on time deliveries.

Keeping this line of argument in mind, the objective of this paper is to compare the results of two different supplier evaluation attempts. On the one hand, suppliers are identified as relevant because of their purchasing volume as A-B-C suppliers and on the other hand suppliers are identified based on their contribution to SCC. ABC-analysis or pareto-analysis highlights the ~top 20 % of all suppliers which generate ~80 % of the purchase volume. These 20 % of the suppliers are the most important ones and marked as A-suppliers. (Leemann, 2010) If a serious additional number of suppliers are identified as relevant because of their contribution to SCC beyond identified A-suppliers we are confident that SCC is an appropriate extension for supplier evaluation.

The objective of this paper makes a manifold contribution to theoretical knowledge. First, supplier evaluation is primarily based on financial measures and the better understanding of supplier performance when adding additional parameters is not only discussed but empirically visualized. Secondly, there is limited research on how to define and measure the complexity of a SC (Hofer and Knemeyer, 2009).

SCC is not only an important theoretical area but also a critical managerial issue as evidenced by the facts below. Companies that are able to manage SCC make up to 73 % more profit (Deloitte, 2003). The way companies handle SCC has effects on SC performance such as delivery times (Perona and Miragliotta, 2004) and operational costs (Wu et al., 2007). A reduction in complexity is linked to improved performance outcomes such as lower transaction costs and increased supplier responsiveness (Choi and Krause, 2006). The first step to managing and reducing SCC is to identify those suppliers that contribute most to the degree of complexity in the supply chain. This identification is the major objective of the developed model described in Section 3 of this paper.

2. Methodology
case study approach to compare supplier evaluation attempts.

Case research (CR) has its roots in the field of social sciences, especially in ethnographic studies and anthropology. In particular, researchers like Eisenhardt (1989) and Voss, Tsikriktsis, & Frohlich (2002) have provided elaborated results regarding theory building from CR. CR is particularly relevant when the examined phenomenon cannot be clearly separated from its real-

life context (Yin, 2003) – this is truly the case in global, volatile and interdependent SCs. CR is particularly useful because of the ability to capture organization–wide and SC-wide contexts. It will also help with the development of measures for SCC. Overall, Case Research will support the goals of theory building, scale development, and initial theory testing.

As findings can hardly be generalized on the basis of a single case (Abdelkafi & Blecker, 2008), a multiple case study approach was set up. Following the classification given by Yin (2003) an embedded case study with four units of analysis is the basis for the model evaluation. Great attention was paid to the selection of the cases (here: units of analysis - UA). The challenge was to choose cases which differ as widely as possible from each other in order to fill theoretical niches, thus drawing an appropriate picture of the entire supply chain under investigation. The company under consideration is a premium producer in the Austrian agricultural machine building industry. Within the supply chain of this company, four segments (= units of analysis) are selected for case-based analysis in a first step. Case analysis based on four cases is consistent with recommendations made in literature; e.g. Voss et al. (2002: 201-201) proposing 3-30 cases or Eisenhardt (1989) suggesting 4-10 cases. In general, the discussion of the ideal number is obsolete as the subject of consideration and the degree of difficulty of the research question differ from one investigation to another. The number of cases is usually determined by the degree of new confirming or conflicting insights achieved by including an additional case. Theoretical saturation is achieved if the additional findings according to a previously investigated phenomenon by conducting an additional case are minimal (Glaser & Strauss, 1998). (Gerschberger & Staberhofer, 2012) In these four units of analysis (loading wagons, tedders, disc mowers and ploughs) all suppliers are evaluated according to their financial influence and their contribution to the degree of complexity. Data were collected by using archival data (e.g. supplier reliability of the past years, supplier addresses), by documents (e.g. for current purchasing volumes) and by a series of workshops and expert interviews (e.g. strategic purchasing managers in charge were asked to value the specificity of a single suppliers' parts by grading at what costs and in what time period parts can be delivered by a second source – if possible at all). To deduce more general findings from the four separate segments hit rates are used to highlight similarities and differences in the results of the two supplier evaluation attempts.

Before the findings of this comparison are discussed, the developed decision model to identify critical suppliers according to their contribution to complexity in the SC is described in the next section.

3. Model development
an attempt to determine a supplier's contribution to complexity in the SC

The developed decision model is based on findings from complex systems theory (Shahabi & Banaei-Kashani, 2007, Bar-Yam, 2003, Kappelhoff, 2000), existing supplier evaluation methods (in particular, the graph model in Müssigmann, 2007) to operationalize complexity in production systems (Windt, Philipp, & Böse, 2008). To avoid redundancy and to facilitate a concise line of reasoning the theoretical foundation of the developed model (Gerschberger et al., 2012, Engelhardt-Nowitzki, Gerschberger, & Staberhofer, 2011) is not reproduced here. Likewise, the in depth analysis of the term 'complexity' (see especially

Bozarth, Warsing, Flynn, & Flynn, 2009, Wycisk, McKelvey, & Hulsmann, 2008, Meyer, 2007, Choi & Krause, 2006, Engelhardt-Nowitzki & Zsifkovits, 2006) is not repeated.

The tree-structure of Müssigmann's graph model (Müssigmann, 2007) assumes a converging material flow as, for instance, applicable in the automobile industry. Each supplier relation consists of an element (company) and an interrelation (connection between supply network companies) and is represented through complexity parameters which are bundled in an evaluation vector (step 1 in fig. 1). Understanding these drivers is critical when developing strategies to manage the resulting complexity (Manuj & Sahin, 2011). According to an extensive literature review (Gerschberger et al., 2012, Gerschberger, 2012), there are two types of complexity parameters: parameters determining the (basic) complexity of a supply network (i.e., elements defining the structure and scope of the supply network) and parameters influencing this (basic) complexity (i.e., elements that effectively drive complexity in the supply network). In the developed decision model (fig. 1) the five complexity parameters (number of suppliers/elements, number of interrelations, uncertainty, customer-driven product variety, and geographical components) which seem to be most important according to the executed review are implemented and operationalized. Based on that, the operationalized evaluation vectors for each supplier relation are consolidated in one overall evaluation vector that represents the entire supply network or network segment examined (step 2 in fig. 1). In practice, the importance of singular parameters can differ from one company to another. This is respected by means of a weighting vector that allows for situational parameter prioritization (step 3 in fig. 1). Weighting is done based on the analytic hierarchy process (Saaty, 1980) which helps to systematically weight parameters according to their single importance in relation to each other.

Finally, a position index for each network segment can be created in order to prioritize the most important segments (step 4 in fig. 2) through multiplication of the evaluation vector of the network segment ($\bar{k}_{0,i}$) and the transposed weighting vector ($\vec{w}^T$). From a company perspective, the supply network segment with the highest position index is of primary importance under current conditions and therefore of high-priority for management activities. (Gerschberger, 2012)

Figure 1 Four-step model to identify relevant suppliers

Step 1:Creation of evaluation vector for each supplier relation	Step 2: Creation of evaluation vector of the entire supply network (segment)	Step 3: Interpretation of weighting vector	Step 4: Identification of relevant supply network segments

$$\vec{k}_{0,l} = \begin{pmatrix} k_{1,0,l} \\ k_{2,0,l} \\ k_{3,0,l} \\ k_{4,0,l} \\ k_{5,0,l} \end{pmatrix} \qquad \vec{w} = \begin{pmatrix} w_{1,l} \\ w_{2,l} \\ w_{3,l} \\ w_{4,l} \\ w_{5,l} \end{pmatrix} \qquad E_{0,l} = \vec{w}^{T}\vec{k}_{0,l}$$

○… supplier relation (consisting of one supplier and the relation between two companies)
l… supply network (SN), supply chain (SC)
$k_{0,l}$… evaluation vector for the artificial supplier, representing a product group
$k_{i,j,l}$… complexity parameter i for supplier relation j in SN l
$k_{1,j,l}$… complexity parameter for the number of elements of supplier relation j in SN l
$k_{2,j,l}$… complexity parameter for the number of interrelations of supplier relation j in SN l
$k_{3,j,l}$… complexity parameter for the uncertainty caused by supplier relation j in SN l
$k_{4,j,l}$… complexity parameter for the influence of supplier relation j on the ease of handling variety in SN l
$k_{5,j,l}$… complexity parameter for geographical components of supplier relation j in SN l
w… weighting vector
$w_{1,l}$… weight for complexity parameter number of elements in SN l
$w_{2,l}$… weight for complexity parameter number of interrelations in SN l
$w_{3,l}$… weight for complexity parameter uncertainty in SN l
$w_{4,l}$… weight for complexity parameter variety in SN l
$w_{5,l}$… weight for complexity parameter geographical components in SN l
$E_{0,l}$… position index of SN l

In the following section this decision model and ABC-analysis are applied within the four units of analysis determined within the supply chain of the company under consideration.

4. Application of supplier evaluation attempts – Findings

Table 1 (which serves as an example for all four units of analysis) displays the result of both supplier evaluation attempts (ABC analysis and complexity contribution) for UA 'loading wagon'. All suppliers that deliver components to manufacture a loading wagon are part of the SC 'loading wagon'. The UA 'loading wagon' was one of the four UAs analyzed within the supply chain of the case company. The fact that loading wagons (being one out of 80 product segments) account for more than 20 % of the entire annual turnover was the major reason why this UA was analyzed. The selection of UAs was based on the target of displaying the entire SC as accurately as possible. In general, the company has two business segments (grassland and tillage) and product segments (= UAs) can be distinguished according to whether they follow a customer-specific or customer-independent mode of production and this selection influences the entire flows within the SC. Due to this fact, two product segments where products are produced to stock and two segments where products are produced based on customer order only are selected.

As grassland accounts for 60 % of turnover and tillage for 20 % (remaining 20 % - spare parts) three UAs come from the business field grassland and one from tillage. Within the UA 'loading wagons' products are manufactured based on customer orders and this product segment is part of the business field, grassland. Due to its high product variety 'Plough' a product segment from the business field, tillage was chosen as the second segment where products are manufactured based on customer orders only. Therefore, two product segments within the business field grassland were chosen where production takes place independent of customer orders. These were 'Tedder' and 'Disc mower' due to their low number of variants (variants differ only in terms of the working width). In the UA 'loading wagon' 158 suppliers deliver parts. 35 of them are classified as 'A' suppliers, 42 as 'B' suppliers and 81 as 'C' suppliers. In relation to that, all 158 suppliers were analyzed according to their contribution to complexity in the SC. Complexity is operationalized based on three major parameters (1) the degree of uncertainty that enters the SC because of the individual supplier, (2) the supplier's potential influence on the handling of the product variety and (3) the potential influence of the supplier's close/remote geographical position. In the following paragraphs the understanding and operationalization of each individual parameter is described.

In principle, there are three potential uncertainty sources: suppliers, production and customers (Davis, 1993). Reflecting the different decisions to be taken and the difficulty of specific situations numerous attempts to quantify uncertainty were developed (see e.g. John & Weitz, 1988, Vickery et al., 1999, Milgate, 2001, Christensen et al., 2007). In this context 'uncertainty' is operationalized by means of supplier reliability. This yields an uncertainty value (grey column 10 in table 1) for each supplier (and altogether a supplier ranking regarding uncertainty).

Variety is measured on the basis of an adapted product line breadth and a case-specifically developed specificity measure to get an idea about the supplier's importance on the influence on handling variety from at least two perspectives. The product line breadth of one supplier (column 11 in table 1) is determined by the number of variants in which parts of the analyzed supplier are included, compared to the overall number of variants within the respective unit of analysis. The specificity measure in column 12 in table 1 values the time required and money needed to set up a relationship to an alternative supplier. The specificity measure is based on the estimation of the purchasers in charge according to the amount of time and money required to guarantee supply by an alternative supplier. The product of the adapted product line breadth and the specificity measure results in a value for the potential influence of a single supplier on the handling of the product variety in the UA 'loading wagon' (grey column 13 in table 1)

The SC is affected by specific factors for certain geographical regions which have the potential to influence the SC performance (Guisinger, 2001). The orchestration of the SC is easier if the involved companies share the same language, belong to the same cultural area, apply similar working standards and are situated in geographical proximity to each other. These factors are subsumed under this parameter. There are several attempts to evaluate the influence of geographical components on SC performance which can be categorized within two basic groups. First, there are substantial frameworks which require large amounts of situation-specific data (Kinra & Kotzab, 2008, Guisinger, 2001). Second, fully developed and online available indices

(LPI – Logistics Performance Index (Arvis et al., 2010), AI – Access Index (FedEx, 2008) are available which evaluate specifics in geographical regions according to their potential influence on the ease of doing business in SCs. According to the initial model requirement of simplicity and practicability, the LPI in combination with a geographical distance factor is used to operationalize geographical components (see grey column 16 in table 1). The combination is valuable as the LPI itself does not consider the location of the analyzing company.

As the importance of the individual parameters can differ from user to user, from company to company the weighting (see section 'weighting' in table 1) of the single parameters (as described in step 3 of the developed model in the previous section) was made by the supply chain manager in charge. The sum of the products of the parameter values and the corresponding weights results in a value that represents the contribution to the degree of complexity of a single supplier in the UA (see column '∑' in table 1).

Table 1 Relevant suppliers of both evaluation attempts for UA 'loading wagon'

Unit of analysis 'loading wagon'
suppliers 158
ABC analysis
A-suppliers 35
B-suppliers 42
C-suppliers 81

auxiliary variables for parameter determination
$k_{4,j,l}^{PLB}$ adapted product line breadth k_4
$k_{4,j,l}^{S}$ specificity k_4
$k_{5,j,l}^{EF}$ calculated distance factor k_5
$k_{5,j,l}^{LPI}$ adapted version LPI k_5

weighting
0 ...w_1 # elements - k_1
0 ...w_2 # interrelations - k_2
0,12 ...w_3 uncertainty - k_3
0,30 ...w_4 variants - k_4
0,58 ...w_5 geographical components - k_5
1

Supplier-ID	k_1	k_2	999-3 days too early	2-1 day(s) too early	on-time	1-2 day(s) too late	3-999 days too late	k_3	$k_{4,j,l}^{PLB}$	$k_{4,j,l}^{S}$	k_4	$k_{5,j,l}^{EF}$	$k_{5,j,l}^{LPI}$	k_5	Σ	ABC analysis
3130	1	1	4	10	20	11	12	0,32	0,01	0,50	0,01	1,00	0,22	0,222	0,169	A
3058	1	1	116	185	60	101	337	0,46	0,00	0,43	0,00	0,42	0,31	0,132	0,133	A
3103	1	1	246	634	324	204	131	0,39	0,52	0,40	0,21	0,01	0,25	0,002	0,110	B
3216	1	1	29	512	28	43	71	0,48	0,08	0,70	0,06	0,27	0,18	0,047	0,102	A
3207	1	1	345	13	3	10	289	0,50	0,07	0,34	0,03	0,33	0,18	0,059	0,102	B
3100	1	1	23	33	10	20	370	0,49	0,00	0,50	0,00	0,24	0,30	0,073	0,102	A
3026	1	1	186	92	25	17	19	0,46	0,00	0,70	0,00	0,29	0,27	0,078	0,101	A
3138	1	1	3	30	6	19	297	0,49	0,00	0,46	0,00	0,20	0,35	0,072	0,101	B
3152	1	1	5	39	2	0	0	0,48	0,01	0,30	0,00	0,41	0,18	0,072	0,100	C
3150	1	1	54	133	58	137	1659	0,49	0,00	0,50	0,00	0,20	0,35	0,071	0,100	A
3102	1	1	12	21	13	21	663	0,49	0,00	0,50	0,00	0,35	0,18	0,062	0,095	A
3034	1	1	230	54	158	9	56	0,34	0,04	0,66	0,02	0,42	0,19	0,078	0,093	A
3116	1	1	5	6	2	7	16	0,47	0,02	0,40	0,01	0,33	0,18	0,059	0,093	C
3066	1	1	41	75	45	19	820	0,48	0,01	0,31	0,00	0,33	0,18	0,059	0,093	C
3200	1	1	16	44	21	26	13	0,41	0,02	0,47	0,01	0,40	0,18	0,070	0,093	A
3095	1	1	43	9	4	2	18	0,47	0,02	0,43	0,01	0,31	0,18	0,054	0,091	C
3215	1	1	32	157	88	118	1684	0,48	0,00	0,50	0,00	0,19	0,30	0,057	0,091	A
3111	1	1	67	102	34	79	1195	0,49	0,00	0,50	0,00	0,18	0,30	0,055	0,091	A
3042	1	1	0	5	6	5	2	0,01	0,04	0,30	0,01	0,64	0,23	0,148	0,090	C
3176	1	1	25	1	2	0	10	0,47	0,06	0,40	0,02	0,21	0,21	0,043	0,089	C
3183	1	1	245	344	166	220	108	0,42	0,21	0,49	0,10	0,06	0,25	0,014	0,089	A
3023	1	1	27	76	435	45	59	0,16	0,54	0,41	0,22	0,02	0,25	0,005	0,088	C
3196	1	1	90	32	18	7	14	0,44	0,01	0,45	0,00	0,31	0,18	0,055	0,086	A
3145	1	1	46	58	44	90	722	0,48	0,06	0,50	0,03	0,11	0,30	0,032	0,085	A
3069	1	1	229	127	149	32	148	0,39	0,02	0,80	0,02	0,30	0,18	0,054	0,083	A
3161	1	1	0	15	14	7	3	0,32	0,00	0,80	0,00	0,42	0,18	0,074	0,082	B
3030	1	1	6	38	21	53	32	0,43	0,02	0,60	0,01	0,26	0,18	0,046	0,081	A
3213	1	1	183	118	346	80	227	0,32	0,33	0,40	0,13	0,02	0,25	0,005	0,081	A
3099	1	1	13	61	31	14	17	0,39	0,00	0,33	0,00	0,32	0,18	0,058	0,080	C
3206	1	1	261	32	9	6	276	0,49	0,07	0,31	0,02	0,10	0,25	0,025	0,080	B
3088	1	1	28	30	3	13	20	0,48	0,00	0,40	0,00	0,21	0,18	0,037	0,080	C
3157	1	1	4	92	35	17	27	0,40	0,01	0,50	0,01	0,29	0,18	0,052	0,080	C
3164	1	1	14	14	10	3	13	0,41	0,00	0,40	0,00	0,29	0,18	0,051	0,079	B
3043	1	1	126	25	4	3	92	0,49	0,03	0,40	0,01	0,11	0,25	0,027	0,078	C
3071	1	1	79	267	353	338	162	0,35	0,26	0,41	0,11	0,02	0,25	0,005	0,078	B
3016	1	1	6	11	4	20	146	0,49	0,00	0,80	0,00	0,17	0,18	0,031	0,077	A
3068	1	1	14	20	23	32	26	0,40	0,00	0,80	0,00	0,27	0,18	0,049	0,077	A
3064	1	1	17	47	11	6	15	0,44	0,05	0,30	0,02	0,19	0,18	0,034	0,077	B

Every single row in Table 1 - starting with column 'Supplier-ID' after the sequential number - displays the evaluation of a single supplier. Supplier '3130' is identified as relevant mainly because of the high degree of uncertainty it brings into the SC (20 out of 57 deliveries in the analyzed fiscal year were on time, in the right amount and quality) and its geographical remoteness ('3130' is the supplier furthest away from the focal company). In contrast to supplier '3130' supplier '3103' not only has a high uncertainty value but also a very high potential influence on the handling of the product variety in the UA 'loading wagon'. Products of supplier '3103' are included in more than 50 % of all variants of the loading wagon produced. Table 1 shows the evaluation of the most relevant suppliers in this UA as suppliers are ranked in descending order according to their contribution to complexity in the supply chain (displayed in column 'Σ'). Columns 'k1' – 'Σ' are related to the decision model to identify relevant suppliers based on their contribution to complexity. Column 'ABC analysis' highlights the suppliers' classifications according to their purchasing volume. Taking a closer look at Table 1 it becomes obvious that only 16 out of the first 35 suppliers identified as relevant according to their contribution to complexity are 'A' suppliers too. 19 suppliers are 'B' or 'C' suppliers and 'not that relevant' from an ABC-perspective. The first 35 suppliers are subject to analysis as, based on the ABC-analysis, 35 are classified as 'A' suppliers and therefore relevant at that point in time. The match between the two supplier evaluation attempts based on purchasing volume and on the contribution to complexity in the UA 'loading wagon' is therefore 46 % (16 out of 35 suppliers identified as being relevant with both evaluation attempts).

This procedure was applied three more times for the remaining UAs 'tedder', 'disc mower' and 'plough'. In the UA 'tedder' 97 suppliers deliver components to manufacture tedders and based on the ABC-analysis 26 of them were identified as relevant 'A' suppliers. When applying the developed decision model in this UA 16 out of the 26 suppliers identified as relevant based on their contribution to complexity were 'A' suppliers too, but the remaining ten suppliers were six suppliers evaluated as 'B' and four suppliers evaluated as 'C'. The match between the two supplier evaluation attempts based on purchasing volume and on the contribution to complexity in the UA 'tedder' is therefore 62 % (16 out of 26 suppliers identified as being relevant with both evaluation attempts).

In the UA 'disc mower' 85 suppliers deliver components to manufacture disc mowers and based on the ABC-analysis 23 of them were identified as relevant 'A' suppliers. When applying the developed decision model in this UA 13 out of the 23 suppliers identified as relevant based on their contribution to complexity were 'A' suppliers too, but of the remaining ten suppliers four suppliers were evaluated as 'B' and six evaluated as 'C'. The match between the two supplier evaluation attempts based on purchasing volume and on the contribution to complexity in the UA 'disc mower' is therefore 57 % (13 out of 23 suppliers identified as being relevant with both evaluation attempts).

In the UA 'plough' 109 suppliers deliver components to manufacture ploughs and based on the ABC-analysis 21 of them were identified as relevant 'A' suppliers. When applying the developed decision model in this UA 10 out of the 21 suppliers identified as relevant based on their contribution to complexity were 'A' suppliers too, but the remaining eleven suppliers were six suppliers evaluated as 'B' and five suppliers evaluated as 'C'. The match between the two supplier evaluation attempts based on purchasing volume and on the contribution to complexity

in the UA 'plough' is therefore 48 % (10 out of 21 suppliers identified as being relevant with both evaluation attempts).

In Table 2 the collected results for all four UAs are displayed. It becomes obvious that in all cases the hit-rate between suppliers identified as relevant based on ABC analysis and suppliers identified as relevant because of their contribution to complexity in the UA is below two thirds. The highest hit-rate (= matching suppliers in both evaluation attempts) of 62 % is realized in the UA 'tedder' down to a 46 % match in the UA 'loading wagon'. Altogether we are confident that the results speak for the additional application of the developed model in order to get a broader picture of a supplier's relevance.

Table 2 Comparison of relevant suppliers identified by both attempts for all four UA

	loading wagon			tedder			disc mower			plough		
	ABC analysis	complexity model	Hit-rate	ABC analysis	complexity model	Hit-rate	ABC analysis	complexity model	Hit-rate	ABC analysis	complexity model	Hit-rate
# suppliers	158			97			85			109		
A	35	16	16 out of 35 (46 %)	26	16	16 out of 26 (62 %)	23	13	13 out of 23 (57 %)	21	10	10 out of 21 (48 %)
B	42	8		23	6		26	4		34	6	
C	81	11		48	4		36	6		54	5	

5. Concluding remarks and further research

The comparison of the two supplier evaluation attempts once again confirmed the assumption that further criteria besides financial measures and attempts are needed to get a better impression of the relevance of individual suppliers. In total, 55 out of 105 suppliers determined as 'A' suppliers in the four UAs are relevant from a complexity perspective too. If model step 3 displayed in Fig. 1 (the interpretation of the SC-manager according to the importance of individual complexity parameters) is eliminated to reduce subjective influence, the difference becomes even bigger and 51 out of 105 suppliers are evaluated as relevant from both supplier evaluation attempts.

The findings of this paper contribute to theoretical knowledge as a measure for the contribution of a single supplier to SC-complexity is developed and implemented in a broader supplier evaluation model. Besides the multi-parameter operationalization of the construct 'complexity' the models enables the situation and company-specific weighting of the single parameters.

The developed decision model helps companies to better understand SCC in a way that complexity is described and operationalized on already available or easily collectable data. The result of the structured and step-by-step model application is a supplier evaluation where no further interpretation is needed. The contribution to complexity of each single supplier is expressed by one value. Moreover based on the parameter values for uncertainty, variety and geographical indicators the SC-managers in charge get an idea of where the biggest optimization potentials with each single supplier are and they can – provided the supplier is willing to cooperate – immediately start to realize these potentials. During the case study we became aware that a rigorously derived decision model is no guarantee for a smooth and integrated application

within a real-life context. Questions of data availability, confidentiality, consistency or the time and effort needed to collect new data have to be answered. The right interview partners – management support presumed – have to be identified, agreed time-tables and action plans have to be developed and the companies' benefit has to be obvious at any stage during case application. Altogether it turned out, that the model can be applied well in practice due to a manageable amount of data needed to operationalize the parameters and a well-defined and traceable model structure.

Besides the observed applicability of the developed model in four UAs in one case company, a number of potential issues for future research and for further improvement of the developed model were identified. Due to the fact that the operationalization range for all parameters is aligned from 0 to 1 and most of the parameters are evaluated on the basis of the product of at least two determinants the differences between the contributions to complexity of individual suppliers becomes very narrow. This especially applies, when considering the additional combination with the weighting vector. For future model applications it could be advisable to develop advanced operationalization proposals for individual parameters.

As the operationalization of individual parameters differs and is based on one, two or more determinants, the person applying the model has to be aware of the challenge to secure the desired influence.

The model's application within the present case study has shown that a standardized method to determine the importance of the single parameters within the weighting vector is preferable. The model application showed the difficulty for the person in charge to evaluate the importance of individual parameters in relation to each other. The implementation of the analytic hierarchy process to evaluate the parameters in a pairwise comparison to determine their importance seems to be an appropriate method to cope with this challenge. Therefore the analytic hierarchy process is consequently implemented within the third step of the model's application. Beyond this, attempts to automatically create weights (e.g. data envelopment analysis) are analyzed. If applicable, this can be a first step to realize a continuous and automated supplier evaluation.

At current state, the supplier evaluation model based on their contribution to complexity is applied four times in one company. To get a better idea about the real practical applicability it has to be applied several times in different companies and different industries.
For the authors, the paper's outcome is a further motivation to continuously identify, operationalize and implement further important issues (e.g. risk and resilience in SCs) in the developed decision model that can determine the importance of supplier relations for a focal company.

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Acknowledgements

AN ANALYSIS ON THE DEMAND FOR HOMELAND VISIT: THE CASE OF THE CHINESE IMMIGRANTS IN MACAO

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Abstract

The statistics show that near half of the Macao residents are immigrants from Mainland China and Hong Kong where are also the most popular tourist destinations for Macao residents. It is believed that these immigrants' homeland visit is an important factor for provoking the Macao tourism flow to Mainland China and Hong Kong. To examine this proposition, a quantitative survey of 500 Chinese immigrants has been conducted. The statistical results show that a large number of respondents visited their home town in Mainland China and Hong Kong in the past 12 months, and their major motives of visiting "home" included visiting friends and relatives, spending free time with family members, having a vacation in a familiar place, and enjoying the local cuisine. The relationship between immigrants' length of living in Macao/homeland and their homeland visit behavior is examined, aiming to get an insightful understanding of their demand for visiting "home". Along with the increase of immigrants from Mainland China to Macao and overseas countries, the demand for visiting Mainland China will remain high. To better capture and serve this market segment, the tourism industry should pay more attention to their tourism needs. It is also worthwhile to further explore homeland tourists' behavior and the nature of homeland tourism in future studies.

1. Introduction

Economic globalization encourages many forms of migration which generate a significant tourism flow around the world and create migratory networks and transnational communities (Feng & Page, 2000; Williams, 2006). For immigrants, their homeland can be a popular destination for vacation, especially under the purpose of visiting friends and relatives (Feng & Page, 2000; Kluin & Lehto, 2012). However, visiting friends and relatives is not the only motive of visiting one's homeland. Some immigrants tried to establish a connection to their homeland and ethnic communities by visiting "home" (Garrido, 2011), or to seek their ethnic and cultural identity by visiting their ancestral homeland (Maruyama & Stronza, 2010). It is also possible that immigrants just behave like some tourists who enjoy visiting a familiar place for vacation, where they can have a more focused activity set and tourism convenience (Lehto, O'Leary, & Morrison, 2004).

This study is conducted in Macao for the Chinese immigrants. Although the major population in Macao is Chinese, the cultural difference between Macao and Mainland China is significant. After four hundred years' occupation by the Portuguese, Macao today is still keeping the unique mixed culture of the Portuguese and the Chinese. Cantonese as the major local language in Macao and the use of traditional Chinese characters also make the Chinese culture in Macao different from that in Mainland China. However, the Chinese immigrants from Mainland China and Hong Kong have already carried 44.5 percent of the total population (Statistics and Census Bureau, 2011a). With the increasing influence of the immigrants from Mainland China, the local Chinese in Macao are sharing more generic characteristics with them in terms of culture, languages, and social values. These cultural similarities are expected to speed up the Chinese immigrants' acculturation and help them quickly adapt to the new living environment in Macao. Moreover, some demographic variables and the length of living in Macao are also expected to influence Chinese immigrants' acculturation, as it was found in previous studies that socio-demographic factors and the length of living in a country of exile had a significant impact on immigrants' acculturation level and psychological well-being (Lee, Moon, & Knight, 2004; Wu, Chib, Plassmanc, & Guob, 2010). In despite of the easy adaptation to the new life in Macao, many Chinese immigrants seem to enjoy visiting their homeland very much.

In the light of the statistics which show that many Macao residents travel independently to Mainland China (47%) and Hong Kong (20%) in 2011 for vacation (Statistics and Census Bureau, 2011b), it is believed that the Chinese immigrants' homeland visit to Mainland China and Hong Kong is a key reason for such a significant tourism flow to Mainland China and Hong Kong in addition to geographical convenience. To examine whether the Chinese immigrants from Mainland China and Hong Kong enjoy visiting their homeland, this study is conducted to explore the demand of Chinese immigrants for homeland visit.

2. Methodology

A quantitative survey method was applied to this study with a sample of total 500 valid respondents. The survey was conducted with a face-to-face person-administered method. The target population was the Chinese immigrants from Mainland China and other Asian countries, who are currently living in Macao. Qualified respondents were recruited from eight local institutes in Macao which mainly serve immigrants. In each institute, all qualified target respondents were invited to participate in the survey interview through the contact person of the institute. Only the volunteers of the target population were recruited and interviewed. The questionnaire was designed in Chinese and covering questions of demographic information, travel motivation, and travel patterns. A 5-point Likert scale was used to measure travel motivation (1 = disagree, 5 = strongly agree). The items of travel motives measured in the survey questionnaire were developed from the focus group interview with ten Chinese immigrants in Macao and literature review. Three survey interviewers were recruited and trained before they conducted the survey.

3. Analysis and discussion

The sample is made up of 2.4 percent respondents emigrated from Hong Kong, 8.4 percent respondents from other Asian countries, and 89.2 percent respondents from Mainland China. The biggest group of the sample accounts for 61.6 percent emigrated from the Canton province of Mainland China where is near Macao.

As shown in Table 1, respondents who had lived longer time in their homeland tended to visit their homeland in the past 12 months more often than those who had lived shorter time in their homeland. The results suggest that immigrants who have a stronger root in their homeland before migration tend to have a closer tie with their homeland after migration. Besides, of the sample of 500 respondents, only 22.8 percent respondents did not visit their homeland in the past 12 months, and these 22.8 percent respondents have been living in Macao for 310 months on average. Comparatively, other respondents who had visited their homeland last year had a shorter length of living in Macao. The results suggested that those respondents who visited their hometown in the past 12 months may tend to let their hometown culture dominate their cultural identity because it was found that hometown visit could reinforce Chinese immigrants' cultural identity with their hometown culture, and to maintain a stable and consistent self-concept, the Chinese immigrants tended to visit their hometown regularly, especially those immigrants with a lower level of acculturation to the new society (Hung, Xiao, & Yang, 2013).

Table 1 Mean analysis by ANOVA and t test over the length of living homeland/Macao and the frequency of homeland visit

		N	Mean (in month)	Std. Deviation	F	Sig.
Length of living in homeland	Frequency of homeland visit				3.258	.039
	>5 times	150	275.09	154.753		
	2-4 times	146	268.24	162.751		
	0-1 time	204	235.01	161.019		
	Total	500	256.74	160.400		
Length of living in Macao	Did you visit your homeland last year?				-4.398 (t value)	0.00 (2-tailed)
	yes	386	230.75	163.108		
	no	114	310.18	189.306		

As shown in Table 2, respondents who visited their homeland more than 5 times last year, had spent the shortest length of stay among three groups. Respondents who visited their homeland 2 to 4 times last year had spent the longest stay among three groups. The results suggest that most respondents tend to spend about a week on their homeland visit. In addition, 73.2 percent respondents indicated that they planned to visit their homeland this year. Given all these statistical results, most Chinese immigrants in Macao have a high demand for visiting their homeland even they have well settled and been living in Macao for long time.

Table 2 ANOVA analysis for the length of stay during the visit to homeland and the frequency of homeland visit last year

		N	Mean (in day)	Std. Deviation	F	Sig.
Length of stay during visit	Frequency of homeland visit				5.918	.003
	>5 times	150	4.73	10.432		
	2-4 times	146	8.63	11.100		
	0-1 time	204	6.86	8.150		
	Total	500	6.74	9.878		

Table 3 Rotated factor matrix for travel motivation

	Factor loadings			Mean	Std. Deviation
	1	2	3		
Factor 1. Connect to the past Alpha = .82				**3.20**	
I want to share my past experiences with my loved ones	.776			3.29	1.38
To affirm my place identity/who I am	.775			2.99	1.45
I want to know the present development of my hometown	.720			3.27	1.35
To relive my past life	.630			3.23	1.46
Factor 2. Attractiveness of the place. Alpha = .84				**3.35**	
I like the local culture		.820		3.38	1.34
I like the scenes and sights		.736		3.42	1.37
I like shopping there		.730		2.92	1.38
I like the local cuisine		.684		3.69	1.25
Factor 3. Socialize with people. Alpha = .72				**3.81**	
Visit friends & relatives			.812	4.30	1.23
I want to spend free time with my family/friends there			.725	3.68	1.32
I want to have my vacation in a familiar place.			.540	3.44	1.39
% of Variance	**25.11**	**24.97**	**17.22**		

Regarding the motivation of visiting homeland, respondents indicated five major motives: visiting friends and relatives (4.3/5), enjoy the local cuisine (3.69/5), enjoy spending a vacation with family members (3.68/5), have a vacation in a familiar place (3.44/5), and tour around the landscapes there (3.42/5). In addition, exploratory factor analysis was conducted for assessing respondents' travel motivation, and the principal component extraction with Varimax rotation technique was used to reduce the eleven items of travel motives into fewer managerial factors. As shown in Table 3, the Varimax rotation extracted three factors, and the accumulated variance was 67.3%. The factor loadings of all eleven items are higher than .50, suggesting that all items have well defined the three factors. The three factors were labeled: "connect to the past"

(four items, α = .82), "attractiveness of the place" (four items, α = .84), "socialize with people" (three items, α = .72). The alphas values of all three factors are over the .70 recommended threshold, suggesting that the three factors have very good internal consistency. The mean values of three factors suggest that "socialize with people" (M = 3.81) was the strongest travel motive for respondents to visit their homeland, followed by "attractiveness of the place" (M = 3.35) and "connect to the past" (M = 3.19). In the factor of "socialize with people", respondents showed that in addition to visiting friends and relatives, they enjoyed spending free time with their family members and having their vacation in a familiar place.

The results suggest that visiting friends and relative is not the only important reason for homeland visit though it carries the highest mean value in this study, other major motives show that respondents shared some similar travel motives with many pleasure tourists who enjoy trying the local cuisine and touring around the natural tourist attractions (Hsieh, O'Leary, & Morrison, 1992). Spending time with family members through a vacation is a common way for many pleasure tourists to increase the family tie with their family members (Kim & Prideaux, 2003). A familiar place for vacation provides tourists with a higher degree of convenience for touring around the destination due to their previous knowledge of the place setting, thus it is a common motive shared with some pleasure tourists (Pearce, 2012). Given all these results, homeland visitors are likely to behave like ordinary pleasure tourists who enjoy various tourist activities rather than (visiting friends and relatives) VFR tourists who only focus on the activity of visiting friends and relatives.

Since the statistical results suggest that many Chinese immigrants tended to visit their hometown regularly for visiting friends and relatives and a vacation in a familiar place, the implications of this study for the local tourism authority and tourism industry are twofold. First, the analysis on the demand and motives of the Chinese immigrants for visiting their hometown regularly suggested that homeland tourism should be regarded as an individual tourism form instead of traditional VFR tourism. The concept of having a vacation at familiar or hometown-like destinations makes homeland tourism a special pleasure tourism form, which helps to nurture the connection between Macao and Mainland China in terms of economy and cultural exchange. For tourism industry, it is worthwhile to further study the travel needs of homeland tourists in order to better serve them and develop new tourism products to capture this market segment. For example, organizing some tours to the cities of Mainland China near Macao for those Chinese immigrants who cannot visit their hometown very often due to their busy work schedule but enjoy having a short vacation in a destination similar to their hometown in terms of culture, language, and food. Second, many Chinese immigrants in Macao seem to have a significant need to socialize with their family members and the relatives living in their hometown in order to nurture the family relationship and the connection with their hometown community. According to Hung et al. (2013), regular visits to hometown may also attribute to the Chinese immigrants' lower level of acculturation to the new society, and visiting hometown helps to maintain their cultural identity. Therefore, the local government should take this issue into account for policy planning in order to improve the Chinese immigrants' acculturation level and their psychological well-being. For Macao tourism authority, a strategic cooperation with immigrants' hometown cities not only helps to stimulate the cultural exchange and boost the economy more effectively, but also helps immigrants to visit their hometown or hometown-like destinations easily. In future research, Chinese immigrants' psychological well-being should be

investigated with respect to their hometown visit behavior. This study may serve as guidelines for future research on the nature of homeland tourism.

4. Conclusion

The statistical results reveal that most respondents in Macao visited their hometown in the past 12 months. Moreover, 73.2 percent respondents indicated that they planned to visit their homeland this year. These statistical results suggest that the Chinese immigrants from Mainland China and Hong Kong have a high demand for visiting their homeland. The motives of visiting hometown were categorized into three major motives: "connect to the past", "attractiveness of the place", and "socialize with people" which is the most important motive. The results of motivation suggested that respondents traveled to their hometown not only to visit their relatives and friends, but also to spend a vacation with their family members, relatives, or friends in a familiar place. Besides, respondent chose their hometown as a destination for vacation also because of the attractiveness of the place and the need for connecting to their past. All these results suggest that those Chinese immigrants who visited their hometown should not simply classified as VFR tourists. Instead, their desires for visiting hometown should be studied with respect to their level of acculturation to the new living environment in Macao and their current psychological well-being.

Since this study is an exploratory study to mark the beginning of the research on homeland tourism, some limitations should be noted. The sample is dominated by the Chinese immigrants from Mainland China and Hong Kong. These two places are sharing many characteristics in terms of language, culture, and tradition with Macao. Though the problem of acculturation to the Macao society could be limited due to a narrow cultural gap between Macao and these two places, the results could not represent all immigrants moved from overseas. Future studies on homeland tourism should include the immigrants from other oversea countries with a bigger cultural gap from Macao. Moreover, the Chinese immigrants' travel patterns, use of travel service, and expenditure are not included in this study. As a result, the understanding of their travel behavior during their visit to hometown is limited. Further studies on homeland tourism should take these issues into account.

The results of this study suggest that the tourism industry should recognize hometown visitors as an individual tourist segment and understand their travel needs during their hometown tour in order to better serve this segment. Macao tourism authority should consider the Chinese immigrants' needs for visiting their hometown when planning the tourism development and policy. Travel agencies may design some tours in hometown-like destinations for those Chinese immigrants who cannot visit their hometown frequently.

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IMPACT OF BOARD COMPOSITION ON THE FINANCIAL PERFORMANCE OF LISTED INSURANCE COMPANIES IN NIGERIA

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Abstract

Safety and protection is provided by the Nigerian insurance industry against major risks by businesses in the economy. Based on this context, the soundness of the insurance industry is ensured through reforms which consequently produce codes for effective and efficient governance. In doing this, the Composition of the board has a role to play in ensuring effective and efficient corporate governance. This paper seeks to look at the impact of Board Composition on the financial performance (return on asset and return on equity) of listed insurance companies in Nigeria. The study sourced data from 204 financial statements of the companies that made the sample for the study period. The analysis of variance and independent sample t-test were used to establish whether Board composition significantly relates and impact on financial performance of these companies. Findings reveal that Board Composition impacts on financial performance of listed insurance companies; however the composition is not related to the financial performance. The study concludes executive directors not exceeding 40% of the total board composition impacts adequately on the overall efficiency of listed Nigerian insurance companies.

Key words: Board Composition, Financial performance, Insurance companies

1. Introduction

The significance of the insurance industry in the Nigerian economy cannot be overemphasized. For one, it is an industry that employs thousands of Nigerians at present, for another, it has billions of naira as shareholders' funds, but far more important is the fact that the industry provides the security and buffer that are needed against major risks by businesses in the economy (Shittu, 2011). Against the problem of major crises in the capital markets worldwide and financial institutions (majorly banks) in Nigeria, It is needful that the soundness of the

insurance industry be ensured. Consequently, In 1992, the insurance special supervision fund decree No.62 was enacted, establishing a body known as national insurance supervisory board, bringing out insurance supervision outside core civil service, changing designation of chief executive from director of insurance to commissioner for insurance and setting up the board of directors to oversee the affairs of the established body. All this provisions were made to attract high level manpower. The provision of Decree No. 62 of 1992 and 58 of 1991 were reviewed for effective supervision and efficient insurance market, bringing into enactment decree numbers 1 and 2 of 1997, national insurance commission and insurance Decree respectively now act (NAICOM, 2008).

Also the Securities and Exchange Commission (SEC) issued code of corporate governance for quoted firm's effective in 2003, with the aim of ensuring that Nigerian quoted firms meet international best practices in corporate governance and to ensure corporate survival and protect the interest of all stakeholders in the affairs of a company which will improve the general performance of listed corporations. All listed firms in Nigeria were expected to ensure full compliance with all provisions of the code in order to protect the interest of stakeholders. Following the conclusions of the reforms in the industry, which resulted in mergers and acquisition ,the NAICOM in consonance with the code initiated and published by SEC in 2003, issued another code with effective date of 1st March, 2009 for insurance companies in Nigeria. The aim of the code was to further institute a robust and sustainable corporate governance structure for the industry. One of such structure is the directive on Board composition (BC) to consist of executive and non- executive directors out of which not more than 40% of the members shall be in the executive capacity(Corporate Governance Code,2009). This provision was believed to enhance performance.

Boards of directors have been largely criticized for the decline in shareholders' wealth and corporate failure. They have been in the spotlight for the fraud cases that had resulted in the failure of major corporations, such as Enron, WorldCom and Global Crossing. In Nigeria, a series of widely-publicized cases of accounting improprieties have been recorded (for example, Wema Bank, NAMPAK, Finbank, Oceanic and Spring Bank). Some of the reasons stated for these corporate failures are the lack of vigilant oversight functions by the board of directors, the board relinquishing control to corporate managers who pursue their own self-interests and the board being remiss in its accountability to stakeholders. As a result, various corporate governance reforms have specifically emphasized on appropriate changes to be made to the board of directors in terms of its composition, structure and ownership configuration (Abidin, Kamal and Jusoff, 2009).

Studies revealed that, 80 percent of the insurance companies that collapse before the introduction of the code in 2003 was as a result of poor corporate governance practices (NAICOM, 2002). On site examination, reports of insurance companies by the national insurance commission (NAICOM) showed that thirty three (33) out of 106 insurance companies were failing in abiding by the provisions of the Insurance Act in their operation (NAICOM, 2002), this is why government, shareholders and other stakeholders continue to show their concern on how this insurance companies are administered. There has been an increase of government scrutiny of publicly owned companies of fiduciary mismanagement and ethical

misconducts in corporate organizations as a result of which corporate governance is now recognized as the most important issue that organizations have to carefully plan and address.

On the other hand, economic competitiveness of firms, whether private or public companies are found to depend on the set of principles and practices that are put in place to assure all stakeholders that, their investment are being managed effectively and with appropriate probity. However, the problem is that business confidence usually suffers each time a corporate entity collapses. Most of the business failure in the recent past are attributed to failure in corporate governance practices, for instance, the collapse of banks and insurance companies in Nigeria in the early 1990s and onwards was as a result of inadequate corporate governance practices such as insider-related credit abuses, poor risk management and internal control system failure (Ogidefa,2005). Corporate governance code was introduced by the Securities and Exchange Commission (SEC) to ensure corporate survival and protect the interest of all stakeholders in the affairs of a company which will improve the general performance of listed corporations. Despite the important role played by insurance industry in the financial sector, it has been overshadowed by the banking industry. This is likely because of the low level of corporate governance practices in the industry. Therefore, this paper extends and contributes to the body of research using Nigerian data to investigate the likely impact of board composition on firms' financial performance. The findings would be useful to stakeholders in the Nigerian Stock Exchange (NSE), Security and exchange commission (SEC) and potential investors as it provides evidence on the relationship between board composition and firm's financial performance.

The main objective of this paper is to evaluate the extent to which board composition relates and impact on the financial performance (Return on Asset and Return on Equity) of listed insurance firms in Nigeria. Besides this objective, there is an attempt by the study to contribute to bridging the existing gap on the impact of corporate governance on financial performance in the insurance industry. This is influenced by the fact that, there are virtually little or no studies known to us in Nigeria that had looked at the impact of Corporate Governance (CG) on financial performance (FP) and relationship of Corporate Governance on financial performance of companies in the insurance industry as most studies looked at relationship in other sectors like the banks and listed firms generally (Oyejide and Soyibo, 2001; Sanda,Mikailu and Tukur, 2005; Kajola, 2008 and Uadiale, 2010).

The paper is structured into five sections, section one is the introduction including this paragraph. Section two, presents the literature in concepts with prior studies. Immediately after that is section three that deals with the methodology, presenting the models and how the study defined and measured its variables. Section four is where the data collected is presented and analysed, discussion of findings is made and based on the findings the paper concludes and highlights the study's implication in the last section of the paper.

2. Literature Review and Conceptual Frame work

2.1 Concept of Corporate Governance (CG): Corporate governance, as a concept, can be viewed from at least two perspectives: The first view which is narrow, perceives corporate

governance in terms of issues relating to shareholder protection, management control and the popular principal-agency problems of economic theory. In contrast, Sullivan and Wong, (2004), a proponent of the second view which is a broader perspective, uses the examples of the resultant problems of the privatization crusade that has been sweeping through developing countries since the 1980s, and the transition economies of the former communist countries in the 1990s that issues of institutional, legal and capacity building as well as the rule of law, are at the very heart of corporate governance. Corporate governance is about making certain that, the company is directed appropriately for reasonable return on investments (Magdi and Nadereh, 2002). It is the system by which corporations are directed and controlled. The corporate governance structure specifies the distribution of rights and responsibilities among different participants in the corporation such as, the board, managers, shareholders and other stakeholders, and spells out the rules and procedures for making decisions on corporate affairs. By doing this, it also provides the structure through which the company's objectives are set and the means of attaining those objectives and monitoring performance. Wolfensohn and OECD (1999); Uche (2004) and Akinsulire (2006).

Corporate governance is considered to involve a set of complex indicators, which face substantial measurement error due to the complex nature of the interaction between governance variables (such as board size, board composition, Managerial shareholding, institutional shareholding, CEO-Chairman Duality and audit committees) and firm financial performance indicators (return on assets, return on equity, Earnings per share etc). Nevertheless, previous empirical studies have provided the nexus between corporate governance and firm performance (Sanda, Mikailu, and Tukur, 2005; Kajola, 2008). However, despite the volume of the empirical work, there is no consensus on the impact of corporate governance on firm's financial performance generally. Consequently, this lack of consensus has produced a variety of ideas (or mechanisms) on how corporate governance influences firms financial performance.

2.2 Insurance business

Insurance business is a promise of compensation for specific potential future losses in exchange for a periodic payment. Insurance is designed to protect the financial well-being of an individual, company or other entity in the case of unexpected loss. Some forms of insurance are required by law, while others are optional. Agreeing to the terms of an insurance policy creates a contract between the insured and the insurer. In exchange for payments from the insured (called premiums), the insurer agrees to pay the policy holder a sum of money upon the occurrence of a specific evident. In most cases, the policy holder pays part of the losses (called the deductibles), and the insurer pays the rest (Davis, 2000). The amount of the premium is determined by the operation of the law of averages as calculated by actuaries. By investing premium payments in a wide range of revenue-producing projects, insurance companies have become major suppliers of capital, and they rank among the nation's sub sector of the capital market.

It is pertinent to state that in the complex field of risk management, insurance business has become universally recognized and accepted as the most efficient response to rescue risk related issues. The position today is that no modern economy can survive or prosper without the active support of a disciplined and viable insurance company. Within the last decade, certain factors have made unprecedented positive impact on global growth and development of

insurance, which include Liberalization of world trade, increasing efficiency, advances in information technology and the integration of world financial system which now provide unparalleled economic, cultural, and recreational opportunities (Daniel, 2008).

2.3 Board Composition and Corporate Financial Performance

Board composition refers to the number of independent non-executive directors on the board relative to the total number of directors. An independent non-executive director is defined as an independent director who has no affiliation with the firm except for their directorship (Clifford and Evans, 1997).

According to Becht etal, (2005) in practice the structure, composition and exact role of boards varies greatly between individual corporations (charters) and governance system. In formal terms, boards can have one or two tiers. One-tier boards are usually composed of executive directors and nonexecutive directors. In theory the executives manage and the non-executives monitor, but in practice one-tier boards are often close to management. In a two-tier board system there is a separate management board that is overseen by a supervisory board. Supervisory board members are barred from performing management functions. Informally, both types of board can be more or less captured by management or dominated by block holders. To avoid the problem of capture by such interests, corporate governance recommendations emphasize the role of independent directors, non-executive directors who have no links with the company other than their directorship and no links with management or block holders.

More so, working as well as the composition of boards matters for performance. According to Becht et al, (2005) in citing Hermalin and Weisbach (1998) established that, board composition is endogenous, which is an indication that, a significant relationship between board structure and general performance is not based on external influences or structures. Similarly, Ekoja, (2007) posit that, board composition has a significant one-directional and endogenous relationship with firm performance. It is important to note here that, it is either board composition affects performance or the needs of companies affect their board composition. There is an apparent presumption that boards with significant outside directors will make a difference and perhaps better decisions than boards dominated by insiders. Fama and Jensen (1983) suggest that non-executive directors can play an important role in the effective resolution of agency problems and their presence on the board can lead to more effective decision-making. However, the results of empirical studies are mixed. A number of studies, from around the world, indicate that non-executive directors have been effective in monitoring managers and protecting the interests of shareholders, resulting in a positive impact on performance, stock returns, credit ratings, auditing, etc. Dehaene, De-Vuyst, and Ooghe (2001) find that the percentage of outside directors is positively related to the performance of Belgian firms. Rosenstein and Wyatt (1990) find a positive stock price reaction at the announcement of the appointment of an additional outside director, implying that the proportion of outside directors affects shareholders' wealth. Bhojraj and Sengupta (2003) and Ashbaugh-Skaife, Collins and Kinney (2006) also find that firms with greater proportion of independent outside directors on the board are assigned higher bond and credit ratings respectively. However, this asertion has been evidenced to be inconclusive in other studies (Wagner, Stimpert, & Fubura, 1998; Luoma

& Goodstein, 1999; Bhagat & Black, 2002; Klein, 2002; Ellstrand, Tihanyi, & Johnson, 2002). Romano (1996) posits that, there is a relationship but, it is ambiguous.

From a different perspective, there is also a fair amount of studies that tend not to support this positive perspective. Some of them report a negative and statistically significant relationship with Tobin's Q (Agrawal and Knoeber, 1996; Yermack, 1996) while others find no significant relationship between accounting performance measures and the proportion of non-executive directors (Vafeas and Theodorou, 1998; Weir, Laing and mcKnight, 2002; Haniffa and Hudaib, 2006). Furthermore, based on a large survey of firms with non-executive directors in the Netherlands, Hooghiemstra and van Manen (2004) conclude that stakeholders are not generally satisfied with the way non-executives operate.

Haniffa and Hudaib (2006) summarize a number of views expressed in the literature which may justify this non-positive relationship, such as that high proportion of non-executive directors may engulf the company in excessive monitoring, be harmful to companies as they may stifle strategic actions, lack real independence, and lack the business knowledge to be truly effective (Baysinger and Butler, 1985; Patton and Baker, 1987; Demb and Neubauer, 1992; Goodstein,Gautum and Boeker, 1994). Also, Hermalin and Weisbach (2003) board composition and corporate performance are not related, while Dalton, Ellstrand and Johnson (1998) found little evidence of a relationship between board composition and leadership structures on one hand, and firm financial performance on the other.

3. Methodology

The objective of this study is to determine the extent to which corporate governance (CG) impacts on financial performance (FP) of insurance companies in Nigeria. To achieve this objective, secondary data was collected from annual financial reports of 32 insurance companies for the period 2001-2012. The study developed two models as the basis for testing the hypotheses formulated for this study. The study specified two accounting ratios (Return on equity [ROE] and Return on assets [ROA]) as proxies for the dependent variable financial performance (FP). The choice of these proxies is influenced by the fact that ROE is considered a measure of the overall company efficiency while ROA indicate whether management is efficient in the utilization of the assets of the business. For the independent variable, Board Composition [BC] was identified. SPSS version 17 was used to aid the analysis of data collected.

3.1 Population and Sample

The population of this study consists of the entire 32 listed insurance companies operating in the Nigerian insurance industry as at December 31, 2012. The period to be covered by this study is 12 years (2001 to 2012). A 12-year period is considered because the Securities and Exchange Commission (SEC) code of corporate governance was not readily available in Nigeria until 2003, while the recapitalization of the industry took place within the study period. To arrive at the sample size, samples were drawn from the population of 352 financial reports and accounts of the 32 listed companies for 12 years to get the desired information on the relationship and impact of Board composition on the financial performance of insurance

companies listed in the Nigerian stock exchange (NSE). However, variations in the dates of listing of the firms on the floor of the Nigerian Stock Exchange, posed a problem in obtaining the requisite data on some of the insurance firms for the period covered by the study. In view of this, the study employed an error of margin at 0.7% to eliminate the firms that are considered unsuitable for the study. The margin eliminated the firms not listed on NSE as at December, 2003. Consequently, 17 firms listed on NSE as at December, 2003 made the sample of the study. Determining a sample of 17 was based on the smith formula in (Asika, 2006). The formula was used because the population of the study is finite. $n=1+N\ (b)^2$ where: n=sample size, N= population size, and b= maximum acceptance error margin. Based on the availability of data, 0.7% was placed as the error of margin. This then, implies;

$n=1+32(0.7)^2$
$n= 1+32(0.49)$
$n= 1+15.68$
$n= 17$

Arising from the above, considering the period under review (2001-2012), a total of 204 Annual financial reports of 17 insurance companies listed on the Nigerian Stock Exchange (NSE) as at December 2012 (AIICO Insurance Plc, Consolidated Hallmark Ins Plc, Continental Reinsurance Co. Plc, Cornerstone Insurance Plc, Equity Assurance Plc, Goldlink Insurance Plc, Guinea Insurance, Law Union and Rock Insurance Plc, Linkage Assurance Plc, NEM insurance Plc, Niger Insurance Plc, Oasis Insurance Plc, Prestige Assurance Co Plc, Regency Alliance Insurance Plc, Sovereign Trust Insurance Plc and STACO Insurance Plc) made the sample of the study.

3.2 Variable specification

Based on the objectives of this study, proxies were specified for the dependent variable, financial performance (FP) i.e Return on assets (ROA) and Return on Equity (ROE). For the independent variable, Board Composition (BC) was specified and it was measured as a dichotomous variable, where 1is assigned if the number of executive directors exceeds by 40% the number of non-executive directors if otherwise 0. Following this specification, the study formulated the following hypotheses:

Ho$_1$ Board Composition (BC) do not significantly relates to financial performance (return on assets (ROA) and return on equity (ROE) of listed insurance companies in Nigeria. Analysis of variance was used to test for the above hypothesis using the following mathematical models:

$ROA = \alpha 0 +\beta BC_1 + e$
$ROE = \alpha 0 +\beta BC1 + e$

For the second hypothesis: **Ho**$_2$ Board Composition (BC) has no significant impact on the financial performance (return on assets (ROA) and return on equity (ROE) of listed insurance companies in Nigeria. The independent sample t-test was employed to analyze data gathered. To achieve the independent samples for the study, the proxies for the dependent variable were grouped into 2 samples. Return on equity (ROE) was categorized as group one and it was

assigned binary number 1. For group 2, Return on assets (ROA) was assigned with binary number 2.

4. Discussion of Findings

Hypotheses were formulated to achieve one of the objectives of this study, which is to determine whether board composition significantly relates and impacts on the return of assets and equity of listed insurance companies in Nigeria. The following table 4.1-3 presents the findings for testing for a significant relationship.

Table 4.1 Descriptive Statistics

	Mean	Std. Deviation	N
Return on Assets (ROA)	.0968	.16150	204
Return on Equity (ROE)	.2092	.38935	204
Board Composition (BC)	.6765	.46897	204

Source: SPSS output listing 2013

In table 4.1 above shows the mean of ROA and ROE to be .0968 and .2092 respectively. That of BC is .6765 meaning variations in the mean are wide.

Table 4.2 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.026	1	.026	.985	.322
	Residual	5.269	202	.026		
	Total	5.295	203			

a. Predictors: (Constant), Board Composition (BC),
b. Dependent Variable: Return on Assets (ROA)
Source: SPSS output listing 2013

Table 4.2 is the anova table for ROA; the F value is .985 with a significant level of .322. This implies the absence of a significant relationship between board composition and return on assets meaning hypothesis one is rejected.

Table 4.3 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.030	1	.030	.197	.658
	Residual	30.744	202	.152		
	Total	30.774	203			

Table 4.3 is the anova table for ROE; the F value is .197 with a significant level of .658. This implies the absence of a significant relationship between board composition and return on equity meaning hypothesis one which states: **Ho**$_1$ Board Composition (BC) do not significantly relates to financial performance (return on assets (ROA) and return on equity (ROE) of listed insurance companies in Nigeria is rejected.

For testing hypothesis two the following tables 4.4-5 presents the findings.

Table 4.4 Group Statistics

	Board Composition (BC)	N	Mean	Std. Deviation	Std. Error Mean
Financial Performance	ROE	17	.2418	.16814	.04078
	ROA	17	.1248	.07654	.01856

Source: SPSS output listing 2013

In the table 4.4 above, the mean for group one (ROE) is .2418 and that of group two (ROA) is .1248. The standard deviation for group one is .16814 with an error mean of .04078. For group two, the deviation is 0.7654 with an error of .01856. The result reveals that, the difference between the means of the two groups is wide. This implies it is significant.

Table 4.5 Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95%Confidence Interval of the Difference		
		Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
Financial Performance: ROE, ROA	Equal variances assumed	7.098	.012	2.610	32	.014	.11694	.04481	.02567	.20821
	Equal variances not assumed			2.610	22.359	.016	.11694	.04481	.02410	.20978

Source: SPSS output listing 2013

In the table 4.5 above, the F value is at 7.098, this means the lavene's test is significant. This translates into the t value calculated with the pooled variance estimate (equal variance) not to be appropriate. With a 2- Tail significant value (i.e. p-value) of .014, the difference between the mean is significant. This implies, board composition does have an impact on return on equity

and assets of listed insurance company in Nigeria. Based on these results the hypothesis which states:

Ho$_2$ Board Composition (BC) has no significant impact on the financial performance (return on assets (ROA) and return on equity (ROE) of listed insurance companies in Nigeria is rejected.

5. Conclusion

Inadequate corporate governance practices has been stated earlier as bottle neck to effective financial performance of companies, in that wise the composition of the board has a role to play in ensuring effective and efficient corporate governance of insurance companies in the light of measuring the overall company efficiency as well as efficient utilization of assets. The main objective of this study is to evaluate the extent to which board composition relates and impact on the financial performance (Return on Asset and Return on Equity) of listed insurance firms in Nigeria. Findings revealed mixed results. The study concludes that board composition is not significantly related to financial performance but has a significant impact. These findings are in line with that of Wagner, Stimpert, & Fubura, 1998; Luoma & Goodstein, 1999; Bhagat & Black, 2002; Klein, 2002; Ellstrand, Tihanyi, and Johnson, 2002). The implication of this finding is that executive directors not exceeding 40% of the total board composition adequately enhanced the overall efficiency of listed Nigerian insurance companies. However, this study being a single industry research based on 204 annual reports and accounts for a period of 12 years may have prevented the recognition of specific terrain effects that goes with quantum decade research that yields significant results. This is a possible area for future research in Nigeria especially in other industry that has more decades in corporate governance reforms and practices.

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Guide for Authors

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The editorial objectives of UTCC IJBE are to advance knowledge and science and to stimulate greater thought and effort in the fields of business management, and by providing readers with:

- Novel and useful information;
- New business management theory or techniques;
- Research explaining about business management thought and practice;
- Articles in subject areas which have significant current impact on thought and practice in business management.

Content
The UTCC IJBE will mainly consider for publication three types of articles:

1. Articles that report empirical research on business management issues.
2. Articles that report on the development of methodologies and techniques that can enhance business management decision making.
3. Articles that report the application of decision tools to generic or specific business management problems.

Manuscripts should be between 4,000 and 6,000 words, typically 15-20 single-spaced, typewritten pages. Articles of shorter length are also acceptable. Only rarely will it be possible to publish a manuscript of more than 6,000 words.

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Articles are considered for publication if they have not been published or accepted for publication elsewhere and are not Articles are considered for publication if they have not been published or accepted for publication elsewhere and are not being concurrently considered elsewhere. Authors will usually be notified of acceptance, rejection, or need for revision within 16 weeks of submission.

No manuscript is accepted for UTCC IJBE until it has been reviewed by the Editor or one of the Associate Editors and at least two outside reviewers who are experts in their respective fields.

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Chirapandu, S. & Yoopetch, C. (2009), "Bank Credit Card Adoption Criteria and Marketing Implications," *International Journal of Business in Asia*, Vol.1, No. 1, pp. 1- 20.

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University of the Thai Chamber of Commerce, Thailand

In 1940, the Thai Chamber of Commerce founded a non-profit education institution called the College of Commerce to produce graduates in the business field. After the outbreak of World War II in 1941, this institution was closed. In 1963, the College was reopened, and the two-year curriculum was developed into a standard four-year in 1964. In 1970, it was officially accredited under the Private College Act. In 1984, this institution was accredited as a university and the name was changed to the University of the Thai Chamber of Commerce. At present, the University of the Thai Chamber of Commerce provides 39 undergraduate program. The School of Graduate Studies is responsible for 9 graduate programs and 1 graduate diploma program, and the School of Business Administration is responsible for 1 certification programs. All programs are approved by the Ministry of University Affairs.

Thailand Management Association

Thailand Management Association (TMA) is a highly professional body of managers and executives, from all branches of business in Thailand who are dedicated to seeking and transferring knowledge through the exchange of the latest information on advanced managerial principles and practices in various fields. This exchange is considered as a contribution from the business sector to the efficient and productive utilization of human and material resources, which contributes ultimately to the well-being of the nation. In 1962, two top management development conferences, inspired by Mr. W.T.Utting, then Chief of the United Nations International Labor Organization (ILO), were organized, by the Thailand Management Development and Productivity Center. These two conferences concluded that the proper and well organized management training center was urgently needed, to improve the overall management skills of both local and foreign enterprises in Thailand. This led to the establishment of the Thailand Management Association, with the late Khun Snoh Nilkamhaeng, then Director of Lever Brothers (Thailand) Ltd., as its first president. The objectives are: 1) to improve the general abilities, education, technical knowledge and effectiveness of person engaged in management, by providing a forum for members for discussion of management subject, 2) to provide mutual assistance in applying management practices to increase the efficiency of the members' enterprises, 3) to propagate the concept that management is a worthwhile and honorable profession, and 4) to promote and maintain high ethical standards of management practices.

Kellogg College, University of Oxford, United Kingdom

Kellogg College is one of Oxford's largest, most international graduate colleges and membership is diverse. The College was named in honour of W. K. Kellogg on the 1st October 1994, in recognition of the generous support given by the W K Kellogg Foundation to the University over the preceding decades. The College has close connections with the University Department for Continuing Education, the Department of Education and other departments active in areas of professional and part-time study. The College can trace its origins back to the start of university extension movement in the 1870s, and came into being on 1st March 1990 (as Rewley House).