BMIC 2015

Business Management International Conference

3ʳᵈ Business Management International Conference (BMIC-2015)

Theme: Moving towards Business and Economic Sustainability

November 5-6, 2015

Holiday Inn Pattaya, Chonburi, Thailand

Burapha Business School (BBS)

Faculty of Management and Tourism, Burapha University

Conference Proceeding

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Hosted by Burapha Business School (BBS)

Faculty of Management and Tourism, Burapha University (Thailand)

Co-hosted by Université de Montpellier (France),

Far East University (Republic of Korea),

Shenyang Aerospace University (PR China), Yunnan Normal University (PR China),

Sekolah Tinggi Pariwisata Trisakti Institute of Tourism (Indonesia),

Faculty of Economics and administration (University of Malaya, Malaysia)

Message from Dean of Faculy of Management and Tourism

Dear Conference participants

On behalf of the Conference Organizing Committee, I am delighted to welcome you to Thailand and to the 3[rd]Business Management International Conference (BMIC) 2015 which to take place in Pullman Pattaya, Thailand between 5 – 6 November, 2015, under the theme "Moving towards Business and Economic Sustainability".

The faculty of Management and Tourism has held the Business Management International Conference for the second time with the great cooperation from six well-known academic institutes. The conference would not be as successful without the great support from our co-hosts;Far East University, IAE University of Montpellier II, Shenyang Aerospace University, University of Malaya, Trisakti Institute of Tourism and Yunnan Normal University.

This year's theme of the conference is taking a close look at Business and Economic sustainability. In terms of business, sustainability management is about incorporating social, economic and environmental factors into your business decisions. It involves placing an emphasis on future, long term goals for your business rather than focusing on short term profits.

I strongly believe that the success of the conference depends ultimately on the Conference Committees who havecontributed hard work in planning and organizing the conference. In particular, I would like to appreciate the effort of the committee for their time reviewing the papers and selecting the best papers that address the theme of the conference.

I would like to also thank the authors who trusted BMIC-2015 with their remarkable work. The conference has truly become an international and multi-disciplinary event with researchers from various nations. Last but not least, I would like to thank all attendants who have interest in the significant of Global Business Management.

Sincerely,

Asst. Prof. Patchanee Nontasak

Dean of Faculty of Management and Tourism

<center>**Keynote Speaker**</center>

<center>**Recipes for sustainable creative tourism**</center>

<center>Greg Richards</center>

Introduction

In order for tourism to be sustainable in the future, we need to find new ways to ensure that the needs of all stakeholders are met, including residents, visitors, tourism operators and policy makers. This is a major challenge, particularly as the needs of these different groups often seem to be diametrically opposed. However, there are signs that in some places the needs of tourists and their hosts and the places that they come together in are now starting to converge.

For one thing, the divisions that we used to see between 'hosts' and 'guests', or 'producers' and 'consumers' are rapidly eroding. Instead of clearly identifiable tourism companies making and distributing products to tourists or consumers, there is now a dispersed network of individuals and organisations involved in the co-creation of tourism experiences. These experiences are more holistic, involving all of the senses, and are more complex to construct than traditional tourism products, such as a beach holiday.

In particular, intangible culture has become more important. In terms of cultural tourism, for example, there has been a shift away from tangible sites related to built heritage, towards intangible culture and creativity, such as the lifestyles and atmosphere attached to the destination.

Rather than thinking about the 'tourism industry' as a collection of major corporations, we are now increasingly confronted with an extension of tourism into new spaces – for example into people's homes – via Airbnb and Uber and Eat with Locals. This paper considers how these changes are affecting tourism, and the potential for creative tourism in particular. The development of creative tourism in a Thai context is then outlined, with particular attention being paid to the development of gastronomic experiences as part of the 'Kitchen of the World' strategy.

New spaces and localities of tourism.

Tourism has moved out of the dedicated, homogenised spaces that is has occupied in recent decades – hotels, tourist attractions, entertainment centres. It is now present in a wide range of different spaces and localities, and these are increasingly integrated into 'everyday life'. In these new locations, control is no longer exercised by clearly identified tourism producers. Instead, the experience is negotiated between the tourist and a range of different local actors who collaborate (directly or indirectly) in the co-creation process. These actors include:

- Local residents
- Cultural intermediaries
- Creative producers
- Architects and designers
- Local guides and experience producers

The different actors and elements of the tourist experience are less often controlled by a distinct tourism supply chain, and more often by a dispersed network linked by new technology and dependent on disembedded trust. For example, the gastronomic experience of a destination is no longer solely represented by official eating establishments regulated by the state or identified in tourist guidebooks. Today, we are seeing the rise of 'eat with the locals' experiences, which are provided by individual residents on the basis of their own culinary skills and the

stage represented by their own homes. In this type of experience the aim is no longer to sample national dishes or haute cuisine, but rather to see how 'ordinary' people live and eat.

These developments are being fed by two complimentary trends – the desire of many tourists to integrate themselves into everyday life and 'live like a local', and the growing openness of local culture facilitated by networking and new technology.

The new spaces of tourism are therefore linked to consumers by new technology, and consumers can directly access these without the intervention of traditional intermediaries. This allows the suppliers in the destination to get much closer to consumers who were traditionally kept at a distance by the tourism industry. These new relationships imply a re-distribution of risk in the tourism value chain, because the activities of travel agents and tour operators have increasingly migrated online.

The consumer who decides to book for themselves online is now taking some of the risk that was previously assumed by the travel industry. This sometimes has a payoff in terms of lower prices or more choice, but it requires more time to be invested by the consumer in information search in an effort to find those lower prices or to reduce the risk of uncertainty. The need to reduce the increased risk of the new distribution systems is leading to a more important role for user generated content. Travel reviews and rating systems are becoming a vital source of information for the Internet traveller who is visiting a destination or location for the first time. They can no longer rely on the tacit knowledge that was gathered by travel professionals, so the experiences of many tourists are turned into codified knowledge that can be transmitted to others through review and rating systems. So the tourist becomes not just the consumer of travel information, but also a generator of information.

This emerging value network, centred on the consumer, is blurring the roles previously ascribed to the different actors in the tourism system, and bringing new actors within the tourism production chain, including local residents and the tourists themselves.

Implications of networked tourism

The changing structure of tourism has important implications for the way in which experiences are produced, distributed and consumed.

New intermediaries and producers emerge, facilitated by the ease of access to consumers and other parts of the network. So the largest network of accommodation provision is today Airbnb, which with around a million hosts worldwide has outstripped the largest hotel chain in the world. At the same time every individual in the destination has the opportunity to turn themselves into a supplier or intermediary for tourism services, by offering their homes, their kitchens or their knowledge to the tourist.

This more distributed supply network has disrupted the traditional value chain and its control mechanisms. The ability of the tourist to communicate directly with suppliers in the destination allows them to circumvent the conventional value chain, and this is making it increasingly important to get close to the consumer and to understand their desires and needs. The erosion of the hierarchical value chain places more emphasis on 'network power', which is exercised not through economies of scale but through the volume and quality of contacts in the network. It becomes important to establish yourself as a 'hub' in the network rather than a 'node'.

The new structure of the value network also implied changes in the distribution of risk between actors. In the traditional tourism value chain, risk is negotiated between principles and agents, with the largest players usually able to minimise their risk at the cost of the smallest. In the value network, the risk is more evenly distributed, with the consumer in particular assuming more risk as they surf the Internet and encounter products offered by people they don't know in places they have never been.

The new landscape of creative tourism

It is against this background of systemic change that the new concept of creative tourism has emerged. The seeds of the idea were sown in the late 1990s, as part of a project on the development of crafts tourism in Europe (Richards, 2005). In the EUROTEX project the value of craft products was emphasised by bringing visitors into direct contact with craft producers, enabling them to appreciate their skills and the amount of work involved in the production process. The success of this concept stimulated the realisation that holistic experiences had more value than staged or unidimensional tourism products involving sightseeing or passively watching cultural performances.

The creative tourism concept was first formulated by Richards and Raymond (2000), who defined it as:

> "tourism which offers visitors the opportunity to develop their creative potential through active participation in learning experiences which are characteristic of the holiday destination where they are undertaken".

In the past 15 years the creative tourism concept has developed and expanded around the world. The emergence of creative tourism was contemporaneous with the identification of the 'experience economy' (Pine and Gilmore, 1998), and many analysts have likened creative tourism to experiential tourism. However, there are important features of creative tourism that make it more than a simple tourism experience.

- Active engagement
- Skill and tacit knowledge
- Embedding in the destination

The creative tourism system creates a more active role for both tourist and host. They are both focussed on a creative activity that involves the transfer and development of creative knowledge and skills. Because this knowledge is tacit knowledge, it can only be passed from one person to another through direct contact, so physical co-presence between host and guest is an important pre-requisite as well as an outcome of the process. This direct contact has important implications:

- it allows the visitor to appreciate local skills and creativity
- it enables skills and knowledge to be transferred
- this in turn make it possible for co-creation to take place
- it puts the visitor and host on an equal footing

These features of creative tourism mean that it is a particular type of experience, one that emphasises relationships rather than economic transactions and producing (making and doing) rather than just consuming.

We can contrast creative tourism with the long standing model of cultural tourism. In particular, cultural tourism tends to be based on exploiting the past as a resource. Museums and monuments form the backbone of the cultural tourism industry in most countries, presenting different elements of national or local culture as objects to be photographed and consumed through the passive tourist gaze. This tends to concentrate tourism in specific places where these resources are found, and also in particular locations with important cultural sites. There is sometimes little link between these traces of the past and contemporary society and everyday life. In some cases contemporary residents end up reproducing their former selves, acting as their ancestors did for the benefit of 'authentic' tourist experiences.

In creative tourism experiences the emphasis lies not so much on the resources of the past, but on the contemporary use of cultural knowledge and skills in order to develop future creative potential. Creative resources, unlike heritage resources, are renewable. Through education we can increase or knowledge and creative potential. Through creative tourism we can not only share knowledge and skills, but creativity can be applied to develop new knowledge and skills, to innovate and develop new cultural and social potential.

These principles bring creative tourism very close to the elements of 'smart development', as formulated by the Dutch development organisation SNV:

- Activities tailored to the local context that address the real needs of people (contextualised solutions)
- Change the underlying systems that that inhibit change (systemic change)
- Give people the tools to guide their own development (local ownership)
- Forge connections and relationships between different ideas, experiences and people (inclusion)

In particular, creative tourism promotes local ownership and inclusion, because the creativity is rooted in place. But it is also important to recognise that creativity is dynamic – it may be rooted in the local context, but this does not negate the possibility for change. In fact, creative tourism may become a driver for change, because it can provide people with new skills and new ideas. If we want to develop 'Creative, smart and sustainable tourism', as the title of this conference suggests, we therefore have to think not just in terms of tourism innovation, but in terms of changing places, changing people and changing minds.

There are a number of key steps that destinations can take if they want to develop creative tourism in a proactive way:

- Identifying creative resources
- Finding creative 'switchers', or people who can link the local and global levels
- Developing platforms to link with creative people elsewhere
- Creating events and other engaging content
- Making creativity visible

Creative resources involve a much wider range of factors than cultural resources. Creative resources include the obvious elements of the 'creative industries' or the 'creative economy', but importantly it includes the ability to apply creative thinking to the use of traditional tourism, cultural or social resources. One good example of this process is found in the Dutch city of Den Bosch, which has effectively used a lack of resources as a creative stimulus. Although the city is the birthplace of the famous medieval painter Hieronymus Bosch, the city has none of his paintings. But the city has cleverly positioned itself at the hub of a network of the cities that have Bosch paintings, and has developed a research and restoration project to link the cities together. This network has enabled Den Bosch to compile the biggest ever exhibition of works by Bosch, a feat which the Guardian newspaper (2015) recently called 'achieving the impossible'. In this case, the main creative resource was ideas, stemming largely from the cultural and creative community in Den Bosch itself.

The Den Bosch example also underlines the important role played by what Castells (2009) calls 'switchers', people who are capable of linking different networks together. By combining people working in different fields and different contexts, switchers provide the essential link that enable places to increase their 'bridging capital', as Putnam terms it. Bridging capital, based on the ability to link with and exchange with different groups, brings new ideas and flows of information and resources that can power development and change. In Den Bosch, a small group of these switchers have been able to pull together networks of businesses, cultural organisations, academics, diplomats and even royalty. The opening of the Bosch exhibition in February 2016 is expected to be attended by the royal families of both the Netherlands and Spain. Such links have given the leverage necessary for august institutions such as the Prado to lend works to an unheard of small regional city in the southern Netherlands.

Having switchers is important in order to make these kinds of contacts, but it is also important to consolidate the links that have been forged. The recent report on Tourism and the Creative Economy from the OECD (2014) points out that the growth of creative tourism has been encouraged by the development of both creative content (experiences and activities) and platforms. Just like any other form of content, creative tourism requires platforms to distribute and promote its creative content. Some of the most obvious platforms are the many local, national and international networks that have grown up around the provision of creative tourism experiences. Almost all of these provide links between the local creative producers and the (inter)national tourism market. But these platforms are also gradually become more creative themselves, adding informative content to engage with

specific audiences. Creative Tourism Austria, for example, specifically targets what they term the 'creative class' through a mix of quirky stories and newsbites from the creative cities of Austria.

Developing such content obviously requires a creative mind, but it also needs appropriate framing to make it engaging for potential audiences and to make the creative message stand out in the increasingly crowded mediascape. In thus sense events have become a particularly important device that is being applied in the development of creative tourism. Events are effective tools for focussing attention, because the concentrate and frame time, squeezing experiences into a temporal spotlight that can allow even relatively small places to stand out for a while.

This also links to the issue of visibility. One of the basic challenges in developing creative tourism is to make the creative process visible. In contemporary society the visual realm has become the privileged source and carrier of information and meaning. In tourism, the rise of visual culture has been marked by the emergence of tourism 'icons', such as the Guggenheim Bilbao. Striking and accessible structures such as monuments and museums have therefore also gained in importance as tourism markers. The Flickr map of Barcelona, for example, is dominated by the architecture of Gaudi, famed for its eccentricity, iconic value and cultural significance (Donaire and Galí, 2011). In contrast to such highly visible cultural signs, creativity is often hidden from view, occupying interstitial spaces in the city and involving processes with little visual excitement. In terms of the creative industries, for example, much of the value production process takes place in offices where products are designed with the help of computers, such as the work of fashion designers or architects.

Strategies for increased visibility include:

- Clustering

- Guiding

- Framing

- Narrating

- Co-creation

The actors involved in these processes are different from those we might associate with the traditional tourism system. The new intermediaries of creative tourism include storytellers, musicians, switchers, local people, policy makers, designers, architects. The creative sector (and the creative class) becomes important in terms of the production of creative tourism. This integration of tourism and creativity is clear in recent developments such as design hotels and new-style 4D attractions.

Creative tourism in a Thai context

If we take the starting point that creative tourism involves creativity that is characteristic of the destination, then we should not be surprised that creative tourism is also different in each location. This has been recently underlined by the publication of the Creative Traveller's Handbook (Paschinger, 2015), in which Elena Paschinger, one of the pioneers of creative tourism development and marketing in Europe, takes us on a round-the-world journey to discover how creative tourism works in different places. She finds that creative tourism everywhere is underpinned by the same principles, even though the experiences offered may be very different. Thailand also offers a unique cultural, social and economic context in which these same principles can be applied.

Thailand has already identified 'Thainess' as part of this unique context. Thainess includes many elements of Thai culture, which include not just high and traditional culture, but also the Thai way of life and creativity. Perhaps most importantly it also represents a link between these elements, and as such provides a clear embedding of creativity in place. The landscape becomes not just a visual backdrop to be photographed, but creativity can be made visible by demonstrating how landscape, culture and creativity are linked. The 'Creative Villages' designated

through the Thai creative tourism programme can act as hubs that frame creativity, linking it to the landscape and therefore embedding it in particular places. In the case of Thailand this can also be a strategy for spreading tourism beyond the major gateways. The development of creative tourism in rural areas is one strategy that often works because of the direct link between the community and the landscape, and also because of the relative lack of alternative development opportunities. But can creative tourism also work in existing tourist centres like Pattaya? The experience of other areas suggests that this might be possible. One of the first creative tourism developments took place on the Greek island of Crete, which is a mass tourism destination. The driver of this programme was a major hotel group, which was concerned about the degradation of local culture through tourism. One potential solution to this was to take elements of local culture that were under threat, such as hand-made textiles, and turn these into creative tourism experiences. By enabling tourists to get actively involved in craft production, it also allowed then to appreciate the value and importance of the objects they were making.

Another area that holds a lot of creative tourism potential for Thailand is gastronomy. Thailand is a major food producer, and Thai cuisine is famous the world over. Recognising this, the Thai government has implemented a national food strategy, called "Kitchen of the World". According to the *Bangkok Post*, the program "aims to develop the country's food industry. Ambitious goals include putting Thailand among the world's top five major exporters of food, promoting the use of Thai ingredients and condiments to produce authentic Thai dishes, and to increase the number of Thai restaurants worldwide." There are currently about 5,500 Thai restaurants abroad, and this network helps to promote exports of Thai food and products such as dining utensils, furniture, and handmade products.

Creative tourism provides an opportunity to develop knowledge and experience exports related to Thai food, which are much more high value than even processed food sales abroad. There are now a large number of cooking schools in Bangkok as well as others in major tourist centres such as Chang Mai that offer various courses related to Thai cuisine. There is also apparently growing demand for these:

> Jarrett Wrisley, responsible for two restaurants in Bangkok – Soul Food Mahanakorn, a "Thai fusion restaurant," and Appia, an Italian eatery (thinks) Westerners will keep flocking to Bangkok to try their hand at cooking Thai food. Wrisley says that Westerners are looking for the freedom that's lost back home (Lisotte, 2014).

What is important in developing creative experiences around Thai cuisine is embedding them in Thai culture, and helping those who want to learn about Thai gastronomy appreciate the strong links between the culture and the food. This may often be easier in places such as Chang Mai, where the agricultural roots of the food products is not so far away, than it might be in cosmopolitan Bangkok. But on the other hand Bangkok may also be the place to think creatively about the relationship between Thai food and Asian fusion gastronomy, teaching people about the potential for being creative across cultural boundaries as well as within them.

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Contents

The Islamic Business Ethics Practices AmongHousing Developers in Malaysia.

Adi AnuarAzmin, Abdullah Abd Ghani and Azizi Abu Bakar

Abstract

Ethical business practices among housing developers can be a catalyst to control the attitude and behavior of the stakeholders involved in the management of housing projects. Ethic practice will be an asset to all parties fairly and impartially. Ethics in fact provides important support to maximize the short and long term business.The development of housing projects also depends on how the business ethics, practiceof the developers influencing the decision making of housing project progress. Therefore, business ethic, practice among housing developer plays an important role in reducing the problems arise during housing project implementation. However, business ethics can be viewed from the perspective of Islamic and conventional. In the Islamic system, an ethical dealer is required because of the ethical values of trustworthy, honest, compassionate and wise is an exemplary example of the prophet Muhammad. From the point of Islamic business ethic research is seen covering the whole conventional wisdom.Islamic business ethics are based on ethical norms and moral codes of the verses of Al-Quran and Hadith.Thus, Islam emphasizes the relationship between business and religion. Therefore, this paper will discuss the issues related to the concept of business ethics in the Islamic perspective among housing developers in Malaysia. Furthermore, this research also explains how housing developers can customize the system of Islamic business ethics in the activities of their daily business.

Keywords: concept of Islamic business ethics, Housing Project.

1. Introduction

Overview of Housing Project in Malaysia

Housing and Local Government Departmenthave received many complaints about the abandoned housing project. That situation had affected the buyer in terms of the financial burden, including the repayment of loan installments and rental payments occupied home buyers. In addition to home buyers likely will be blacklisted by the financial institutions, if they fail to settle outstanding debts will lead to difficult connected home buyers to obtain loan facilities are second (Abu Bakar, 2009). Refers to the statistical category of blacklisted developers, Ministry of Housing and Local Government is shown in table 1 below:

Table 1: Status of private housing development project

No	Unethical Case	Total Developer
1.	Failure to pay the compound	349
2.	Pain project	158
3.	Homebuyer claims tribunal cases	283
4.	Involved installed projects	117
5.	Found without license	83
	Total case unethical:	**990**

**Source:Division of Abandoned Housing Projects Private National Housing Department
(Updated on December 31, 2013**

Based on the above table, it shows that among housing projects,there are 349 developer fails to pay the compound, 158 developers have been blacklisted because of pain project, 283 developers have been blacklisted for homebuyer claims tribunal cases (tribunal), 117 developers have been blacklisted involved installed projects and 83 developers have found without a license.This practice, in fact, have revealed evidence of the lack of business ethics practices among housing developers in Malaysia.

As was discussed by Hanafi and Sallam (1997) pointed out that modern era debate about business ethics among academics, professional associations, public authorities and other relevant organizations, has found the key.In principle organizational arrangements that are beneficial in both indoor and outdoor environments involving rational and imaginative thought about human behavior among housing project developers. With a good business, they are able to perform the work ethic by specific norms, moral standards, and the principles of honorable impartial, honest, dignified and with integrity in the performance of work activities implementation of housing projects.

This paper aims to study the concept and approach ofIslamic business ethics perspective focuses primarily on housing project. It is important to qualitatively analyze the importance of business ethics for housing projects. When business is a clear purpose and core values and aligning the brand, it is more likely to attract and keep talented people, reduce inefficiencies and stress caused by conflicting messages and also to attract more clients, customers and suppliers who deliver goods to the same high standards. Perhaps more clearly the importance of business ethics will help business leaders to implement and practice of business ethics and management. Therefore, the purpose of this paper is to discuss the concept of business ethics in order to develop Islamic business ethic practices among housing developers in Malaysia.

2. Literature Review

The idea of business ethics of housing developers is usually discussed in the framework of the rights of clients and good housing, project management (McMahon & Harvey, 2007; Trevino & Victor, 1992). In theory, there are a lot of ethical principles in Islam that originated from the Qur'an and the Hadith of the Prophet Muhammad (peace upon him). However, for the purposes of this paper, the Islamic business ethics that only correlate with housing project are discussed as follows;

True *(Sidqun)*

Truthfulness is the foundation of Islamic ethics. Islam is, by the way, another name is right. He speaks the truth, and enjoins Muslims to be straight forward and right in the business and their speeches. Islam condemns falsehood and deceit in any form (Ahmad, 1991).

Allah said: *"Oh who believe, fear Allah and say the right things." (33:70).*

Here is an excerpt from the Hadith as in truth:

The Prophet (peace is upon him) said:

> *"Anyone who has been to strengthen the truth with his tongue, his punishment will continue to grow until the Day of Judgment in which God will pay the full reward." The Prophet (peace is upon him) said:*

The Prophet (peace is upon him) said:

> *"Residents of Paradise are of three types: those that wields authority and is just and equitable; truthful and has been endowed with the power to do good deeds, and those of compassion and kindness toward his brother, and to every pious Muslim , and that does not lend a hand despite having a large family to support. "(Sahih Muslim)*

Moreover, Islam wants to control the human tendency to greed and love of possessions (Beekun, 1997). Instead, Islam totally rejects the practice of cheating and laziness that led to injustice in the work place (Ali, 1992). In work and business activities, Islam requires to work, truthfulness, not an exception in the non-preferred.

Equilibrium *('Adl)*

Islam strongly recommends doing justice in trade and prohibiting unfair or unjust to do. The Prophet sent by Allah to build justice. Woe to those who do cheat, even to those who, when asked for consideration of other people to be met, while they are contemplating if they will lose weight. Dishonesty in business presage the destruction of the business, the key to success in business is trust. The Qur'an commands the Muslims to weigh and measure the right way and not to commit fraud in the form of reduced size and weight. This means:

> *"And give full measure when you measure the, and weigh with the true. That is more important (for you) and a better result. "(Surat al-Isra ': 35).*

In this verse, Allah clearly stressed the need for equilibrium and fair when he labeled Islam as *ummatun wasatun*[1].In the context of its application in the activities of housing project, the principle of fairness applies both literally and figuratively. The relationship between housing developer, project managers and their project team members, then the principles of justice implies that projects managers should conduct fair and equitable to all project team members regardless of sex, race, physical differences, religious and political beliefs. In fact, the skills, experience and attitude will determine the properties of the potential project work. As reported by Hasanuzzaman, (2003), the absence of fairness in all business dealings with housing developers to bring harm and disturb the peace and harmony, but in the absence of benevolence are not hurting anyone. This is in accordance with (*firman Allah swt)* in which mean:

> *"O you who believe, you shall be the ones who always uphold the (truth) because Allah, bearing witness with justice. And let not hatred of a people once prompted you to be unfair. Be just as fair closer to piety ". (Surat Al-Maidah: 8)*

Benevolence *(Ihsan)*

Benevolence reflects proficiency and fineness in dealing with others and also defined as an act which benefits persons other than those from whom the act proceeds without any obligation. Benevolence is also frequently repeated in the Qur'an and the Hadith. Allah says:

> *"Spend your wealth for the cause of God, and be not cast by your own hands to ruin;and do good. Lo! God loves those who behave with ihsan." (2:195).*

The Prophet (peace is upon him) said:

> *"The inmates of Paradise are three types: one who wields authority and is just and fair; one who is truthful and has been endowed with power to do good deeds; and the person who is merciful and kind-hearted towards his relatives and to every pious Muslim, and who does not stretch out his hand in spite of having a large family to support." (Sahih Muslim)*

Thus thebenevolence practices are the essential elements to establish a corporate culture that emphasize on achieving physical and spiritual need for employees (Shaharuddin, 2005).

Union*(Tawheed)*

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[1]Understand the heart as the chosen people and the best, most honorable people and the main, the people who uphold justice(Alhabshi, S.O. (2001)

Union is another fundamental ethical principles of Islam. The essence of union is a sense of accountability that implies a sense of need to appear before Allah and account for one's actions (Manan, 2012).Unions are as liaison to the concept of faith that guided all aspects of Muslim life in the economic, political, social, cultural and emphasizes the concept of homogeneous consistency and regularity comprehensive. From this concept, then Islam offers religious, economic, and social culture by forming a union. On the basis of this view about the ethics and business into integrated, vertical and horizontal formsvery important similarities in the Islamic system. The importance of unitywidely acknowledge by Scholars and practitioners. According to the study by McKnight and Chervany, (1996) unity or trust enables collaboration happenand main positive interpersonal relationships. Indeed, trust is emphasized in the Quran and Hadith.

> *"Verily, Allah commands you to make over trusts to their owners it is caused, and*
> *that when you judge between mankind, that judge with justice: verily how good is*
> *the teaching which He giveyou! Allah is Hearing, Seeing". (4: 58).*

Therefore, each housing developers responsible for housing project team members and other resources with which he was entrusted. Union is very important because of the need to make a profit and the temptation to enhance the properties of their products or services in a sales pitch (Ali, 1992). All sources of housing business shall be treated as a sacred trust by housing developers.

Freedom*(Free Will)*

Freedom is an important part of the business ethics of Islam, but freedom is not detrimental to the interests of society. There are no income limits or restrictions for someone and Islam encourage people to be active, creative works, and works with all its potential. Human tendency to continue to meet the personal needs of the infinite must be handled with the utmost responsibility of each individual and the community through charity and alms *infak.*Housing developers need to practice the philosophy of doing business by being freedom from simulation, hypocrisy, disguise, or false pretense and secureness. Islam has emphasized this code of ethics, as we see in the Quran and Hadith.

Allah said:

> *"So woe to the worshipers, who are neglectful of their prayers, those who (want*
> *but) seen (of men), But refuse (to people) (too) neighborhood needs". (107: 4-7).*

There is no room for cheating, swearing too much, lying and false advertising within the framework of Islam in the business. Nevertheless, it is important to note that the Islamic principles of truth and honesty should be followed as matters of policy or business strategy of housing developers. Here is an excerpt from the Hadith as in sincerity:

The Prophet (peace is upon him) said:

> *"Actions are but by intention and every man shall have but that which he intended.*
> *Whoever fugitive unto Allah and His Messenger, and he whose migration was to achieve*
> *some worldly benefit or to take some woman in marriage, his migration was for what he*
> *migrated. "*

Therefore, Islam attaches great importance to the freedom of the intentions and actions in every walk of life. Two benefits can be obtained by employing the freedom in business transactions.

First, it helps to increase worker efficiency implementation. Second, because employees can contribute to a high rate of productivity by speeding up production. In addition, the code of ethics does not encourage the manipulation or exploitation of others for personal reasons (Ahmad, 1991, McClaren, 2012). For that reason, a genuine housing developers are not expected to cheat, harm and take advantage of by others.

Welfare (_Khairat_**)**

The welfare is defined as actions that benefit others from the result of the act without any obligation. It also means refinement, efficiency or absolute in dealing with others. Along with the concept of justice, the concept of welfare is often repeated in the Qur'an and Hadith.

Allah said:

> _"Those who spend in ease and adversity, who restrain anger and pardon men;_
> _Allah loves those who do nothing compassionate" (3:134)._

Therefore, housing developers should make use of the most effective and socially desirable of business resources. Housing project implementation activities should aware not to destruction or harm society or the natural environment. Indeed, Islam emphasizes the role of man on the environment by making him responsible for the environment as the vicegerent of Allah.

3. Conclusion, Future Studies and Research Implications

Previous research has explored attitudes towards ethical business practices in several other countries in the west and find some traditional beliefs about work practices in different cultures have rejected (Ali & Al-Kazemi, 2007).Islamic perspective on housing business code of ethics has been presented as a sample from the Quran and Hadith related to the five axioms, namely true, equilibrium, union, freedom and compassion or welfare. It is beyond the ability of researchers to have a comprehensive and all-inclusive coverage of the field of ethics. Therefore, the objective of this study is to present the Islamic business ethics from the perspective of a housing project. Overall, this study seeks to provide an explanation of how the practice of housing projects to be implemented within the framework of ethical business ethics of Islam. Therefore, Islamic business ethics are necessary for the housing project. It is a valuable business tool, it is important to identify and resolve the question of business conduct. In terms of research implications, the discussion of this study can provide insight into the suitability of Islamic ethics in the practice of housing developers. However, this study is an eye-opener for practitioners and academics on the importance of Islamic business ethics practices among housing developer in Malaysia. It will at least provide a guideline in promoting how housing project should look like according to Shariah.

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The antecedents of virtual team creativity

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Abstract

The virtual team becomes progressively essential in nowadays and it represents as one of the important way for sustainability. Many researchers identified various challenges for virtual team performance. Yet, little is known about the determinants of virtual team members to be creative. Drawing from transactive memory systems (TMS), which consist of expertise location, knowledge coordination, and trust, we suggest that these three factors have mutual relations and support for virtual team creativity. We further suggest that goal learning orientation and task interdependence are positively support knowledge sharing which is the main determinants for the development of TMS. The results from 477 virtual team members, which are young managers in France, support our hypotheses. The discussion and recommendation for future research are provided.

*Keywords***:** Creativity, Virtual team, Transactive memory systems, Knowledge sharing

1. Introduction

Due to the greater globalization and increasing de-centralization, many organizations interest in introducing "virtual teams (VTs)," where they are geographically dispersed and communicate via modern computer-driven technologies (Hertel et al. 2005; Leenders et al. 2003; Piccoli and Ives 2003). There are the remarkable studies focused on VTs in the past decade (Ayoko et al. 2012). Moreover, Virtual teams work for different operations (Majchrzak et al. 2000; Maznevski and Chudoba 2000) including new product development (Leenders et al., 2003), which require the high level of creativity in order to create new product and/or services. Moreover, many agree that the future success of business depends on the extent to which team is able to be creative (Florida & Goodnight, 2005; Rego et al., 2007). Creativity is important not only for product innovation development but it is also the key determinants on sustainable development (Lozana, 2014). Having limited resources, creative ability allows individuals, teams, and organizations to perform successfully. Hence, the comprehension on how to promote virtual team creativity, which is the new practices of organization, could be beneficial for sustainable development. However, the practices of virtual team have gone far beyond the literature in order to understand whether and how virtual team can stimulate creativity. Current literature is too far to have comprehensive view of virtual team creativity (Martins et al. 2004; Thatcher and Brown 2010).

While previous studies on virtual team focused on technical aspects of software to improve communication efficiency (Malhotra and Majchrzak 2014; Stewart and Gosain 2006); other researchers have emphasized on the various antecedents of virtual team performance (Hoch and Kozlowski 2014; Lin et al. 2008, 2012; Malhotra and Majchrzak 2014; Turel and Zhang 2010). Many researchers agree that virtual team performance require team cognition such as Transactive Memory System (TMS) in order to perform task successfully (Kanawattanachai and Yoo 2007; Lewis 2004). TMS becomes critical in explaining team performance. However, little is known whether TMS may have positive impact on virtual team creativity. Some argue that TMS is critical in virtual team. TMS composes of expertise location, trust, and knowledge coordination (Kanawattanachai and Yoo 2007; Lewis 2003). Having information on who knows what within teams may facilitate the integration and coordination of knowledge as well as increase their creativity. Trustworthiness within virtual team may allow team member to believe in knowledge acquired from other team members and more willing to exploit and coordinate such knowledge, which may also support for

creativity. Also, coordinating different ideas and knowledge and generating new association of ideas to offer the new solutions (Harrison and Rouse 2013), are the key role of creativity. Therefore, three components of TMS may have positive impact on virtual team creativity.

Furthermore, one of the challenge in virtual team studies is knowledge sharing. Knowledge sharing is considered as the important antecedent for virtual team performance (Suh and Shin 2010; Zakaria et al. 2004). Previous studies considered knowledge sharing in virtual team as the outcome of TMS (Chen et al. 2013; Choi et al. 2010). However, we argue that knowledge sharing may represent as the antecedent of TMS. Probably, when team members start working together, they may be able to have information on which team member is specialize in each field (expertise location) through the observation of knowledge sharing. By communicating, and exchanging information within the team, virtual team members can judge whether their team member is reliable and trustable (Kramer and Goldman 1995). Also, knowledge sharing allows team members to acquire new knowledge and provide the new connection of knowledge, which may increase their capability in coordinate knowledge. Therefore, these may provide new insights that knowledge sharing may also influence on TMS.

Knowledge sharing is important in team performance and it is likely to influence on TMS; therefore, it is beneficial for the organization that willing to exploit virtual team to understand how to motivate and encourage virtual team members to share and exchange information, knowledge, and ideas. Even though literature has identified several factors that can influence on traditional team creativity and knowledge sharing, it would be unwise to assume that factors influencing face-to-face team effectiveness are valid for virtual teams (Potter and Balthazard 2002). Therefore, we also focus on two main factors that may motivate virtual team to exchange knowledge. The first one is team goal learning orientation(or called as learning orientation). Having learning orientation, individuals are willing to learn and motivate for challenging task (Alexander and Knippenberg 2014). Teams with learning orientation may facilitate knowledge sharing. The second factor is task interdependence. Since virtual teams are difficult to control for the work of other team members, having task that require knowledge and information from different experts may increase the possibility to communicate and exchange knowledge in order to achieve such task. Researchers agree that task interdependence can influence communication in team (Staples and Webster 2008). It may also enhance knowledge sharing in virtual team. Overall, as pointed out, our understanding on virtual team creativity is still insufficient (Martins et al. 2004). We are interested to understand the roles of main antecedents in virtual team. This paper investigates on whether TMS can influence on virtual team creativity and whether knowledge sharing can influence on TMS. The corresponding research questions (RQ) are:

RQ1: Does transactive memory system have an impact on virtual team creativity?

RQ2: Is knowledge sharing able to develop and influence transactive memory system?

RQ3: Does virtual team members share more knowledge when they are goal learning orientation and having task interdependence?

In order to answer these research questions, first, we provide the background of the study regarding virtual team creativity, TMS, knowledge sharing, learning orientation, and task interdependence. Second, we outline our methodology including our research design, data collection, and analysis. Third, the results are provided in term of table and figure. Finally, we discuss our research findings, the contributions to research and practices, the limitation and future research, and followed by the conclusion.

2. Theoretical Background

2.1. Virtual Team Creativity

Creativity is defined as the creation of a valuable, useful new product and idea by individuals working together in a complex social system (Woodman et al. 1993). Teams are information processing units where they encode, store, and retrieve it (Brauner and Scholl 2000). Team can create new knowledge and ideas from effective communication and from the knowledge of the various team members (Leenders et al. 2003; Tiwana and Mclean 2005). Thus, interaction within the team is important for their creative performance. While traditional team studies investigate on how face-to-face interaction can influence on

team creativity (e.g., Gong et al. 2013; Jia et al. 2014; Shalley and Gilson 2004), VT studies have scare knowledge on this relation (Martins et al. 2004). Many researchers defined virtual team as the teams that rely their interaction and communication through technology media by crossing different boundaries especially geography, time and organization (Bell and Kozlowski 2012; Jarvenpaa and Leidner 1999). Geographical and organizational dispersion indicates that team members are situated in different locations and rarely meet face-to-face. Therefore, they tend to rely mainly on computer- mediated communications. Communication through computer also enables the effective communication for collaboration across different time of team members (Kayworth and Leidner 2000). Some studies also argue that virtual team is temporary meaning that team members do not share past history and may not have the possibility to work together in the future (Jarvenpaa and Leidner 1999; Kanawattanachai and Yoo 2007).

Previous studies identified the various antecedents of virtual team performance (Hoch and Kozlowski 2014; Lin et al. 2008; Turel and Zhang 2010); the relationships between virtual team and team performance (Hoch and Kozlowsk 2014; Lin et al., 2012; Malhotra and Majchrzak 2014). Numerous determinants have been explored such as the roles of information technology (Majchrzak et al. 2000; Malhotra and Majchrzak 2014; Stewart and Gosain 2006); leadership (Kristof et al., 1995); conflict (Ayoko et al. 2012; Massey et al. 2001; Suh and Shin 2010); trust (Bierly et al. 2009; Jarvenpaa and Leidner 1999; Jarvenpaa et al. 2004; Paul and McDaniel 2004; Piccoli and Ives 2003; Robert et al. 2009); culture (Jarvenpaa et al. 1998; Massey et al. 2001); knowledge sharing (Chen et al. 2013; Zakaria et al. 2004); and creativity (Chamakiotis et al. 2013; Leenders et al. 2003). Yet, creativity literature is too far to have comprehensive view of virtual team (Martins et al. 2004; Thatcher and Brown 2010).

2.2. Transactive Memory System

A TMS is defined as a specialized division of cognitive labor developing within a team with respect to the encoding, storage, and retrieval of knowledge from different domains (Wegner 1987). According to our review on creativity literature, there is no study conceived TMS to explain team creativity neither in traditional team nor virtual team. On the contrary, TMS has been utilized to explain team performance (Hollingshead 2000; Liang et al. 1995; Moreland 1999; Moreland and Myaskovsky 2000) and discussed its development within virtual context (Kanawattanachai and Yoo 2007; Lewis 2004). The development of TMS on virtual team is debated from various researchers (Faraj and Sproull 2000; Griffith and Neale 2001; Kanawattanachai and Yoo 2007; Maynard et al. 2012). The recent studies found that virtual team could build TMS (Kanawattanachai and Yoo 2007). Effective TMS also includes three dimensions of behavioral expertise location, trust, and coordination of knowledge among team members (Brandon and Hollingshead 2004; Lewis 2003). Prior researchers agree that communication can lead to understanding of the expertise of team (Maynard et al. 2012) building trust within team (Jarvenpaa and Leidner 1999; Jarvenpaa et al. 2004; Kanawattanachai and Yoo 2002) and coordinating diverse knowledge and these three factors are important to explain team performance. Expertise location refers to team members' awareness of who knows what within the team (Kanawattanachai and Yoo 2007); trust refers to team members' beliefs about team members' knowledge and abilities to carry out the task (Kanawattanachai and Yoo 2002; Lewis 2003); and knowledge coordination refers to team's ability to effectively coordinate tasks and knowledge among team members (Liang et al. 1995; Wegner 1987). Even though TMS has been explored from various researchers to explain team performance for both traditional (Hollingshead 2000; Liang et al. 1995; Moreland 1999; Moreland and Myaskovsky 2000) and virtual team (Faraj&Sproull 2000; Griffith and Neale 2001; Kanawattanachai and Yoo 2007; Maynard et al. 2012), there is a lack of studies on the impact of TMS on creativity, especially, virtual team creativity.

3. Development of Hypotheses

3.1 Transactive Memory Systems on VTC

Previous creativity scholars identify that team creativity is the outcome of the interaction among group of individuals (Gilson et al. 2005; Jia et al. 2014; Perry-Smith and Shalley 2003). However, for which reason communication may lead to the creativity of team is still unclear. Different phenomena has been identified as the outcome of communication such as increase shared value (Malhotra and Majchrzak, 2004),

group cohesion (Lurey and Raisinghani 2001; Maznevski and Chudoba 2000), and TMS (Akgün et al. 2005; Maynard et al. 2012). TMS within team refers to team members' specialize in remembering different aspects of expertise location, trusting each other's expertise, and coordinating their knowledge more effectively (Kanawattanachai and Yoo 2007; Lewis 2003).

Literature claims that TMS is effective in predicting virtual team performance (Kanawattanachai and Yoo 2007; Lewis 2004). However, there is the lack of studies regarding the relation between TMS and team creativity or VTC. Studies on the relationship between TMS and virtual team performance conceptualize TMS as the outcomes of three factors: Expertise location, Credibility, and Knowledge coordination (Maynard et al. 2012; Yoo and Kanawattanachai 2001). However, the previous studies failed to examine the relationships among these three behavioral abilities (Lewis 2004; Liang et al. 1995). The studies have found that simply expertise location cannot ensure team performance, but it is coordination of knowledge that is the most important to explain team performance (Faraj and Sproull 2000). Also, trust could enhance team to utilize, integrate and coordinate knowledge which is positively support for creativity. This paper agrees with Kanawattanachai and Yoo (2007) that not all dimensions of TMS can influence on virtual team creativity.

Specifically, TMS could be developed and exist within virtual team because team members exploit their own individual meta-knowledge from others' knowledge in order to perform a given task (Kanawattanachai and Yoo 2007). Hence, in order to develop team members meta-knowledge, team members should have information on where they could acquire knowledge when they need. Past research revealed that awareness of expertise location can heighten team performance (Faraj and Sproull 2000; Henry 1995; Littlepage and Silbiger 1992). However, the greater understanding of who knows what within virtual team allows for the higher possibility to integrate and coordinate the pool of knowledge and to create novel solutions. The ability to identify expertise location enhances the better access diverse knowledge from various domains which ultimately increase the ability to coordinate and integrate different sources of knowledge and to be creative (Tiwana and Mclean 2005). Hence, we can hypothesize that:

H1: Expertise location will positively influence knowledge coordination within virtual team.

H2: Expertise location will positively influence virtual team creativity

In addition, to awareness on expertise location, team members should also have trust in other's expertise (Moreland 1999). Robert et al. (2009) claimed that trust is very important in virtual teams, where there is computer-mediated communication and often geographically dispersed. The role of trust is still inconsistent in the concept of TMS (Ren and Argote 2011). It has been conceived as antecedents (Akgün et al. 2005), dimension (Kanawattanachai and Yoo 2007), and moderator (Rau 2005) between TMS and performance. We posit that trust is one of the dimensions of TMS (Kanawattanachai and Yoo 2007; Lewis 2003). Researchers found that team members have more willingness to share, integrate, and coordinate knowledge from other team members when they trust one another (Sarker et al. 2005). Having trust within team can reduce uncertainty as well as increase team productivity (Dirks and Ferrin 2001). Therefore, trust within VT is important for team performance through acquiring and manipulating various knowledge (Weick and Roberts 1993) and support for creativity (Barczak et al. 2010) Whitener et al. 1998). We thus hypothesize:

H3: Trust will positively influence knowledge coordination within virtual team.

H4: Trust will positively influence virtual team creativity

Finally, TMS also compose of the ability of team to integrate and coordinate different knowledge from their team. Studies suggest that knowledge coordination is challenging in virtual team (Cramton 2001; Faraj and Sproull 2000; Griffith and Neale 2001; Hollingshead 1998; Qureshi and Zigurs 2001). Researchers agree that TMS increase the ability of team to integrate knowledge and team member meta-knowledge of others' knowledge enable team to solve problem (Alavi and Tiwana 2002; Lewis et al. 2005; Rico et al.

2008). Indeed, since team creativity embraces the ability to coordinate and integrate various information and knowledge from team members (Chen 2006), coordinate numerous knowledge to the novel solutions can have a significant positive impact on team creativity (Tiwana and Mclean 2005). Integrating different ideas and generating new association of ideas to offer the new solutions require the ability of knowledge coordination (Hackman 1987; Harrison and Rouse 2013). Thus, we propose that:

H5: Knowledge coordination will positively influence virtual team creativity.

3.2 Knowledge Sharing

The knowledge sharing in virtual teams plays the key roles in explaining their performance (Griffith and Neale 2001; Malhotra and Majchrzak 2014; Pinjani and Palvia 2013). Knowledge sharing can be defined as the provision or receipt of task-relevant ideas, information, feedback, and suggestions (Cummings 2004). Researchers investigate on difference aspects of knowledge sharing in virtual team such as knowledge sharing in different cultures of virtual team (Zakaria et al. 2004); the antecedents of virtual team knowledge sharing(Chen et al. 2013; Suh and Shin 2010); and the impact of virtualization degree on knowledge sharing (Griffith et al. 2003). Virtual team is considered as the beneficial source of knowledge since it often includes people with different backgrounds, expertise and perspectives to work together(Staples and Webster 2008). However, the empirical research suggests that there is still a need on the study of knowledge sharing in virtual team (Hertel et al. 2005; Martins et al. 2004), although research shows its significant role on team performance (Cummings 2004; Staples and Webster 2008). Similarly, in creativity literature, knowledge sharing is considered as one of the important impediments for team creativity (Perry-Smith and Shalley 2003; Perry-Smith 2006). To be more creative, teams are less likely to rely on prior competencies, knowledge, and experience (Song and Montoya-Weiss 1998; Veryzer 1998). This means that teams should share knowledge among their team members.

Numerous researchers found that TMS can enhance knowledge sharing (Chen et al. 2013; Choi et al. 2010; Moreland and Argote 2004). These studies indicated that a team with a well-developed TMS will share knowledge effectively. However, our paper argues that since VT are often temporary and team members might not have been working together before. Hence, it tends to be difficult to develop TMS before having knowledge sharing. On the opposite of previous studies, we suggest that knowledge sharing can also enhance the development of TMS. Specifically, share knowledge will lead to inform other team members on who knows what. Within a team, each members represents different function of tasks (Hambrick 1994). The effectiveness of integration is determined by the team's capacity to sense required knowledge, to know the location of knowledge, to know how to access it and to be able to integrate various perspectives of knowledge (Robert et al. 2008). Generally, virtual team members are not likely to know each other very well. Hence, in order to develop team awareness of who know what within the team, it is necessary for team members to share information, idea, and knowledge. By sharing knowledge, team members are able to identify the specific expertise and skills of their members from their interactions, so we hypothesize that:

H6: Knowledge sharing will positively influence expertise location within virtual team.

Many researchers claim that trust increase the possibility to share knowledge (Lin 2006; Nonaka, 1991; Staples and Webster 2008). However, trust is considered as the result of individual judgment of others' past behaviors (Kramer, 1999; Wilson et al., 2006) and trust can be developed overtime (Robert et al. 2009). Trust exists when individuals perceive that their team members possess such qualities of trustworthiness when they share knowledge with others (Nonaka 1991). This implies that trust can occur where information has been exchanged. Commonly, virtual team members have little past history, and may not share common cultures and these factors can limit the development of trust (Cascio , 2000). However, a climate of trust can develop through the interaction and exchange of information among team members, (Wilson et al., 2006). Also, the frequency of communications that encourage the sharing of task outputs can alter the development of trust in virtual team (Jarvenpaa and Leidner 1999). Thus we propose that:

H7: Knowledge sharing will positively influence trust within virtual team.

Srivastava et al. (2006) found that knowledge sharing in teams improves team performance due to the higher team coordination. Knowledge sharing allows team mebers to acquire new knowledge from their team members. Knowledge given by one team memberm could represent as the cue for other members to retrieve relevant but different knowledge from own memory (Wegner et al. 1985). Knowledge sharing can improve collective knowledge of team members (Cabrera et al. 2006; Grant 1996) because it enhances knowledge coordination and integration which become novel insights. Numerous researchers found that the interaction of individuals within the group allows for the sharing of knowledge, expertise, and ideas that ultimately creates the new insights and novel combination of knowledge (Baer et al. 2010; Grawitch et al. 2003; Johnson et al. 2006). Integrating and coordination different forms of knowledge generate new knowledge that is surpass the sum of what each of members can do on his or her own (Chen et al. 2013; Liu and Phillips 2011). Knowledge sharing allows individuals to connect previously unconnected knowledge or recombine previously connected ideas and finally create new knowledge (Nahapiet and Ghoshal 1998). Hence, we hypothesize that:

H8: Knowledge sharing will positively influence knowledge coordination within virtual team.

3.3 Team Goal Learning Orientation

Goal orientations are defined as goal preferences in achievement settings (Button et al. 1996; Payne et al. 2007). The goal orientations, in general, are considered as cognitive frameworks for interpreting feedback, reacting to challenges, and responding to performance outcomes (Farr et al. 1993; VandeWalle et al. 2001). Specifically, learning orientation (GLO) refers to the dedication and interest in developing one's competences (Dweck and Leggett 1988). Actually, individuals who are learning goal-orientated tend to prefer challenging tasks and search for the possibilities to develop their abilities, to become skillful in their tasks (Alexander and Knippenberg 2014; Dweck and Leggett 1988; Hirst et al. 2009). LGO could enhance team creativity by the fact that it provokes the development of domain-relevant skills (Hirst et al. 2009). Indeed, team LGO fosters systematic information search, exchange, and processing (De Dreu et al., 2008). This implies that LGO is positively impact on information exchange (Gong et al. 2013). Teams with LGO are likely to share their knowledge and skills in order to learn from others and success in team performance. Team LGO is likely to motivate seeking information and feedback from others (Alexander and Knippenberg 2014; Gong et al. 2009; Hirst et al. 2009). In other words, LGO can motivate virtual team members to involve in sharing and acquiring new knowledge and skills. Thus, we hypothesize that:

H9: Goal learning orientation will positively enhances knowledge sharing in virtual team.

3.4 Task Interdependence

The extent to which team members need to rely on one another's knowledge, expertise, and skills to accomplish task is considered as task interdependence (Jehn 1995; Staples and Webster 2008). According to the higher complexity and novelty of tasks, there is the demand for expertise coordination—that is, team interactions to manage knowledge dependencies in order to perform task effectively (Faraj and Sproull 2000). Hence, it is interesting to explore the role of task interdependence within team (Edmondson 2002; Langfred 2004). Previous studies found that task interdependence play an important role in team performance (Goodman et al. 1987; Staples and Webster 2008; Wageman 1995). Complex task may require information from different perspectives. The distribution of interdependent information leads team members to be in a better position to understand the meaning of these pieces of knowledge (Mell et al. 2013). Gilson and Shalley (2004) found that more creative teams are those who perceive that they are working on high interdependent task. However, the roles of task interdependence and virtual team performance are still shortage. Under high task interdependence, individuals are performing tasks where they work together, and

may have discussed roles, expectations and deliverables. Task interdependence requires stronger interaction since team members tend to rely on each other, and thus enhance knowledge sharing (Staples and Webster 2008). Specifically, working with task interdependence, team members are encouraged to communicate, share, and exchange resources (Wageman 1995). Thus, we hypothesize that:

H10: Task interdependence will positively influence knowledge sharing within virtual team
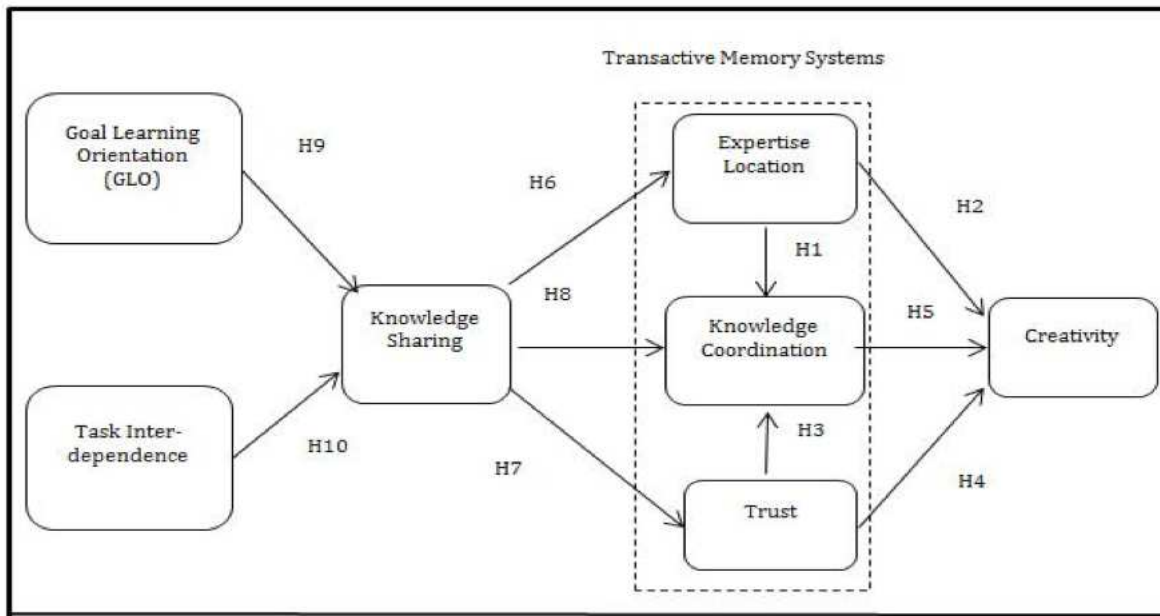
Figure 1. Research Model

4. Methodology

The model was tested with young managers contacted through the executive education at a top ten business school in France. These young managers between 23 to 27 years old were coming from all over France within different regions, industries and responsibilities in their firms.

4.1 Measurement

In this paper the measure were adapted from prior research. The items were Likert-type 7- point scales with 1 indicating total disagreement and 7 indicating complete agreement with the statements. The Measures for virtual team creativity were operationalized as team perceive their creative ability adapted from Rego et al. (2007). Measures for TMS were adapted from Lewis in 2003. We were taking into consideration the roles ofthree distinct dimensions: expertise location, trust, and knowledge coordination. Knowledge sharing were measured using items from both (Choi et al. 2010) and (Suh and Shin 2010). Measures for learning orientation were adapted from (Bunderson and Sutcliffe 2003) and those for task interdependence from (Van der Vegt and Janssen 2003). The development procedure followed prior literature on scale development procedures, including conceptual definition, measure development, and refinement through pilot-testing. The measurement items are included in Table A1 in Appendix A.

4.2 *Analysis and Results*

In this section, we detail the pre-analysis and data validation procedures undergone to establish construct validity and reliability of the measurement items used. After establishing these necessary pre-conditions, we proceed to evaluate the proposed model using structural equation modeling (SEM). All data validation and model testing was completed using SPSS and AMOS part the IBM SPSS statistics package 20.

- Sample Characteristics

The sample consisted of 477 usable responses (after filtering out incomplete responses). This sample was 56% female, 44% male. They were young managers (M_{age} = 24.6, SD = 2.0) with a majority of them holding a bachelor or master degrees. The participants have already been working in condition of virtual team; over 35% reported to be involved on weekly basis with virtual team, and 65% reported that they spend at least 1 hours a month in virtual team meetings.

- Establishing Construct Validity

A first step in establishing factorial validity is to determine which constructs are formative and which are reflective (Diamantopoulos and Winklhofer 2001). Previous methodologists have suggested examining how constructs were formed and validated in other literature and modeling constructs accordingly (Diamantopoulos and Winklhofer 2001; Petter et al. 2007). Following these guidelines, we note that all measures adapted for this study have been previously modeled and measured as reflective, first-order constructs (Choi et al. 2010; Suh and Shin 2010; Van der Vegt and Janssen 2003). Measures developed for this study were likewise theorized and intended as reflective measures. We thus follow prior literature and validate the measures using guidelines established for reflective construct measurement.

After data collection, the measures were subjected to a purification process to assess their reliability and validity (Anderson and Gerbing, 1984; Fornell and Larcker, 1981). The validity of the measures was examined in the two-step approach recommended by Anderson and Gerbing (1988). First, an exploratory factor analysis was conducted to assess the underlying factor structure of the items that measured each construct. The exploratory factor analysis was conducted including 25 measured items of eight variables, using a principal component with a Promax rotation and an eigenvalue of 1 as the cutoff point. The Kaiser–Meyer–Olkin measure of sampling adequacy was 0.880, and the Bartlett test of sphericity was significant at $p <.001$ (χ^2 (231) = 5043,96), indicating the suitability of this data for factor analytic procedures. A single factor was extracted for each multiple-item scale in this analysis. The items, and their factor loadings after exploratory factor analysis, eigenvalue, and percentage of variance explained, appear in Table 1.

Table 1: Discriminant Validity of Construct Measures Factor Rotation								
Constructs	Items	F1	F2	F3	F4	F5	F6	F7
Creativity (F1)	Cre1	**,814**	,051	,017	,014	,013	-,077	,073
	Cre2	**,895**	-,013	,027	-,006	-,003	-,023	-,021
	Cre3	**,869**	-,010	-,049	-,029	,030	,012	-,046
	Cre	**,885**	-,012	-,019	,003	-,060	,014	,021
Knowledge Coordination (F2)	TMSb1	,010	**,911**	,008	-,015	,028	-,050	-,013
	TMSb2	-,046	**,887**	,002	,064	,008	-,015	-,058
	TMSb3	,048	**,821**	-,002	-,044	-,020	,104	,076
Task Interdependance (F3)	TID1	-,073	,018	**,813**	-,036	,133	-,089	,030
	TID2	-,005	-,003	**,838**	,077	-,040	,039	-,046
	TID3	,047	-,006	**,888**	-,035	-,084	,037	,035
Goal Learning Orientation (F4)	GO1	,076	,047	,060	**,857**	-,079	-,064	-,035
	GO2	-,104	-,013	-,103	**,902**	,061	-,031	,093
	GO3	,025	-,027	,062	**,804**	-,003	,080	-,062
Knowledge Sharing (F5)	KS1	-,069	,029	-,107	,010	**,907**	-,031	,078
	KS2	,016	,007	,029	,003	**,906**	-,032	-,066
	KS3	,074	-,030	,144	-,044	**,738**	,058	-,021
Trust (F6)	TMSc1	-,027	,031	-,015	-,054	-,085	**,953**	,031
	TMSc2	-,082	,010	,024	-,003	,011	**,919**	-,012
	TMSc3	,202	-,037	-,048	,107	,162	**,580**	-,021
Expertise Location (F7)	TMSa1	,083	-,003	-,025	,064	,076	-,038	**,734**
	TMSa2	-,022	,029	-,047	-,053	-,049	,003	**,896**
	TMSa3	-,022	-,040	,117	,024	-,002	,051	**,786**
Eigenvalue		7,248	2,301	1,697	1,408	1,319	1,226	1,088
Percentage of variance explained		32,947	10,460	7,715	6,399	5,994	5,571	4,943

The next step in the pre-analysis was to establish factorial validity and the reliability of the measures used. Since most constructs and many relationships hypothesized in the model are derived from prior literature, we chose to use confirmatory factor analysis (CFA) to validate the measurement model. CFA is appropriate in situations where strong theory suggests known relationships among the indicators and their intended factors (Brown 2006), as in our case. Upon fitting the proposed measurement structure of the model, measurement items that loaded poorly onto their respective factors and reduced reliability were dropped. The refined model exhibited acceptable fit to the data (Chi-sq = 362,98, *dfModel*= 188, *p* = 0.00, Chi-sq/*df*= 1,981, CFI = 0.97, TLI = 0.96, RMSEA = 0.044). Satisfied that the model was a good fit to the data, we could then calculate correlations, reliabilities, and AVEs to further aid in establishing factorial validity. These metrics are summarized in Table 2.

In order to demonstrate factorial validity, the average variance extracted (AVE) for a construct should be > 0.5 (convergent validity) (Hair et al. 2010). In addition, discriminant validity is demonstrated when the square root of a construct's AVE is higher than the correlation between that construct and all other constructs in the model (Hair et al. 2010). As shown in Table 2, the constructs in the model meet all of these criteria. To establish reliability, the composite reliability value should be ≥0.7 (Fornell and Larcker 1981; Nunnally and Bernstein 1994). The computed reliability values shown in Table 1 indicate sufficient reliabilities.

Table 2. Construct correlations, reliabilities, and AVE for the structural model

Constructs	R	E	1	2	3	4	5	6	7
Creativity (F1)	,879	,646	, 803						
Knowledge coordination (F2)	,854	,663	,100[*]	,814					

Task interdependence (F3)	,808	,586	,375**	,014	,765			
Goal learning orientation (F4)	,812	,590	,472**	,128**	,293**	,768		
Knowledge sharing (F5)	,826	,614	,509**	,170**	,420**	,399**	,783	
Trust (F6)	,813	,592	,475**	,045	,325**	,417**	,453**	,769
Expertise location (F7)	,772	,532	,431**	,102*	,344**	,310**	,441**	,356**	,729

CR: Compostite Reliability AVE: Average Variance Extracted

** p<0.01two tailed

* p<0.05 two tailed

The diagonal shows the square root of AVEs

- Evaluating Common-Methods Bias

Because all survey items were measured using the same method (an online survey), the possibility exists that some of the shared variance among the constructs is due to the common method rather than the underlying relationships among the constructs. Though precautions were implemented to reduce this likelihood (e.g., randomizing the order of survey items) (Straub et al. 2004), it is necessary to test for common-methods bias in the measurement model. We first note that no correlations shown in Tables 2 and 3 are above 0.90. Correlations above this threshold may indicate a common-methods bias (Pavlou et al. 2007). A more stringent approach to testing common-methods bias is the common latent factor method (Podsakoff et al. 2003), wherein the influence of a common latent "method" factor on each individual indicator is modeled, noting any large changes to the loading of each indicator on its corresponding construct. If "large" changes (i.e., > 0.2) are observed, the method factor is retained in the structural model in order to remove the method's influence from the estimated parameters in the structural model (Podsakoff et al. 2003). Upon adding the common method factor to the measurement model, no changes in standardized item loadings larger than 0.05 in magnitude were observed. We thus conclude that the common method used for measurement did not significantly impact our results.

Having established the validity and reliability of the constructs measured, we now proceed to describe the SEM analysis of the full model.

- Model Testing Results

We tested the theoretical model shown in Figure 2 using SEM. Fitting the structural model to the data produced generally acceptable indications of fit (Chi-sq = 540.52, *dfModel*= 262, *p* = 0.00, Chi-sq/*df*= 2.06, CFI = 0.95, TLI = 0.95, RMSEA = 0.047) (Hair et al. 2010). Hypothesized relationships shown in the theoretical model in Figure 1 were tested in conjunction with the SEM analysis. The tested hypotheses, along with their corresponding path estimates and significance levels, are summarized in Table 3.

Table 3. Hypothesis Testing Results

Hypothesis	Path Est.	Support?
H1. Expertise location ⟶ Knowledge coordination	0.144	Yes
H2. Expertise location ⟶ Creativity	0.258	Yes
H3. Trust ⟶ Knowledge coordination	0.280	Yes

H4. Trust → Creativity	0.310	Yes
H5. Knowledge coordination → Creativity	0.188	Yes
H6. Knowledge sharing → Expertise location	0.468	Yes
H7. Knowledge sharing → Trust	0.495	Yes
H8. Knowledge sharing → Knowledge coordination	0.296	Yes
H9. Goal learning orientation → Knowledge sharing	0.285	Yes
H10. Task interdependence → Knowledge sharing	0.356	Yes

Figure 2. Final Model with SEM Results
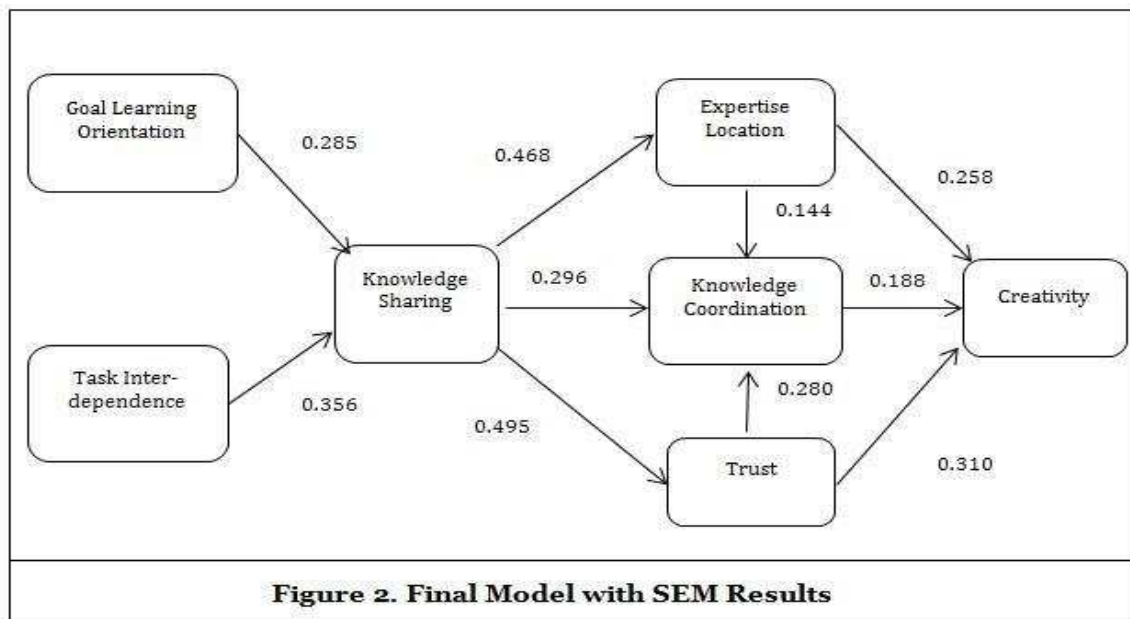
5. Discussion

Our model explains the relations of TMS and virtual team creativity together with considering other determinants: knowledge sharing, team learning orientation, and task interdependence. As several factors of this model have been formerly explored, the key contributions of this research are our focus on TMS within virtual team creativity and consider the roles of knowledge sharing as the antecedent of TMS rather than the outcomes a previously tested (e.g., Chen et al. 2013; Choi et al. 2010). As such, the finding of this paper provides the important and novel insights for virtual team operation. This section includes an overview of the model testing results, implication for theory and practices, and finally the limitation and future research.

The roles of TMS on virtual team creativity were found to be important in our model. Precisely, the three dimensions of TMS proposed by Lewis (2003): expertise location, trust, and knowledge coordination influenced on virtual team creativity (H3, H4, H5). Moreover, the awareness of expertise location is positively impact on the ability to coordinate diverse knowledge from team members (H1). We also found that trust has a positive impact on the ability to coordinate knowledge (H2), which confirms the finding of Kanawattanachai and Yoo (2007).

In addition, the model includes other key factors. Knowledge sharing is the antecedent of expertise location, trust, and knowledge coordination (H6, H7, H8). This provides the novel support that knowledge sharing could be also the antecedents of TMS rather than the outcomes. Finally, team LGO and ask interdependence had significant and positive influence on knowledge sharing (H9, H10). Figure 2 and Table 2 provided a tested model and a summary of hypothesis results, respectively.

5.1 Implication for Research

Our research contributes to the virtual team literature by providing theoretical explanation for the effects of virtual team creativity. Drawing from previous literature in both traditional and virtual team creativity, we proposed that team learning orientation and task interdependence would increase the knowledge sharing within virtual team and the findings support these hypothesizes. The outcomes indicate that these two factors encourage team members to exchange information and knowledge as in traditional team.

While previous researchers investigated the roles of knowledge sharing as the outcome of TMS, or as the antecedent of trust which is one of the dimension of TMS, our model proposed differently by suggesting knowledge sharing as the antecedent of TMS (expertise location, trust, and knowledge coordination). Precisely, we argued that since virtual team has little knowledge on other team members history, it is needed for them to start working together by exchanging information, knowledge, and ideas before knowing other expertise location; developing trust within team, and coordinate various knowledge. Also, whether TMS could be developed in virtual team is still debate and few researchers found the positive results. The results reveal that knowledge sharing is the antecedent of TMS within virtual team and confirm that TMS could be developed within virtual team. Moreover, we also provide the relationships between expertise location, trust, and knowledge coordination. Expertise location which refers to the awareness of 'know who knows what' is significant for knowledge coordination. The knowledge of where team members could find the necessary information is important for the capability to integrate and coordinate knowledge. We also found the significant of the impact of trust on knowledge coordination as previous research (Kanawattanachai and Yoo 2007). These outcomes confirm the relations of the three factors of TMS.

In addition, the other key contribution of this paper is to explain virtual team creativity via TMS. Neither tradition nor virtual team creativity literature has considered TMS as the outcome of individuals' interactions. Our paper provides the novel and new insights on virtual team creativity literature and extends the understanding of TMS. The results reveal that TMS is a significant and positive impact on virtual team creativity. Specifically, expertise location, trust, and knowledge coordination increase virtual team creativity. Overall, our model testing results indicate that virtual team creativity could be explained through TMS and other key influencing factors such as knowledge sharing, LOG, and task interdependence is play critical roles in virtual team setting. However, there remains much to learn on what motivate team members to engage in virtual team as well as to be creative. Further work can build on this specific concept for further insights in virtual team literature.

5.2 Implication for Practice

This research provides practical implication for virtual team members as well as organization that need to work with virtual team that requires creativity in their works. First, creativity can be encouraged within virtual team even if they need to interact through computer. Some organizations may afraid of adopting virtual work since it might impact on the performance. Our paper indicates that virtual team could be creative and the antecedents to support their work is similar to traditional team such as providing task that need interactions as well as select the people that are willing to learn. It is important for the organization to choose the right person and provide the interdependence task in order to motivate their communication and knowledge sharing.

Second, knowledge sharing can enhance TMS (trust, expertise location, and knowledge coordination). This suggests that even though encouraging team members to share knowledge and communicate frequently is important for virtual team performance as well as creativity. The frequency of communication and knowledge sharing may be influenced by other factors such as the characteristics of information technology or the capability to use computer and understanding the software of team members (Bell and Kozlowski 2002; Griffith et al. 2003,). Hence, it is important for an organization to consider different factors to encourage team members to communicate and share knowledge.

Third, our model suggested that trust expertise location, and knowledge coordination are important for virtual team to be creative. Generally, virtual team members are not likely to know each other before or have little occasion to meet face-face. Researchers agree that virtual team members that have known each other before working through computer has a positive impact on building trust and awareness of other

expertise (Hertel et al. 2005). Therefore, the organization that would adopt virtual team for their project or task should allow team members to know each other face-to-face before starting to work.

5.3 Limitations and Future Research

As any research endeavor, also our research has some limitations. As pointed out, our samples are various in term of their virtual team participation, which may create the different perceptions from one to another. Nonetheless, they are adequate target samples for our study. Our model views TMS as the compositions of three distinct factors; expertise location, trust, and knowledge coordination following the suggestion of Lewis (2003) rather than one variable. Also, since the roles of virtual team creativity is still new for literature, it would be more fruitful to test other key variables such as the roles of information technology, the impact of experiences on virtual team, the roles of organizational culture, or the influence of absorptive capacity. However, these limitations provide the fruitful directions for future research to explore.

Conclusion

To the best of our knowledge, this is the first study to investigate the positive effect of transactive memory system (TMS) on virtual team creativity. Our paper highlights on the antecedents of virtual team creativity by integrating key factors from both traditional and virtual team literature. Our findings provide a valuable contribution to TMS literature, virtual team literature as well as creativity literature. Our theory also has an important implication for virtual team members and organization that adopt virtual team for their work. Virtual team is desirable in many organizations for sustainability as well as convenience since it reduces cost of travelling that could produces pollutions and damage environment and safe time whereas some argued that it could be an obstacle for creativity. Our paper identified factors that influence on virtual team creativity and propose that virtual teams are appropriate for sustainability and they can be creative to generate new ideas for sustainable development.

Appendix A : Measurement Items

Table A1. Measurement Item Detail			
Construct	**Code**	**Items**	**Composite Reliability**
Creativity (Rego et al. 2007)	Cre1	My team members come up with new and practical ideas to improve performance.	0.879
	Cre2	My team members have new and innovative ideas.	
	Cre3	My team members promote and champion ideas to others.	
	Cre4	My team members exhibit creativity when given the opportunity to	
Expertise Location (Lewis 2003)	TMSa1	Each team member has specialized knowledge of some aspects of our project.	0.772
	TMSa2	I have knowledge about an aspect of the project that no other team member has.	
	TMSa3	Different team members are responsible for expertise in different areas.	
Knowledge coordination (Lewis 2003)	TMSc1	Our team had very few misunderstandings about what to do.	0.854
	TMSc2	Our team did not need to backtrack and start over a lot.	
	TMSc3	We accomplished the task smoothly and efficiently.	
Knowledge Sharing	KS1	Our team members provide their manuals and methodologies for	0.826

(Choi et al. 2010; Suh and Shin 2010)		other team members.	
	KS2	Our team members share their experience or know-how from work with other team members.	
	KS3	The knowledge shared by team members is helpful to complete my tasks.	
Goal learning orientation (Bundersonand Sutcliffe 2003)	GO1	My team likes challenging and difficult assignments that teach new things.	0.812
	GO2	My team likes to work on things that require a lot of skill and ability.	
	GO3	My team sees learning and developing skills as very important.	
Task interdependence (Van der Vegt and Janssen 2003)	TID1	I need information and advice from my colleagues to perform my job well.	0.808
	TID2	It is necessary for me to coordinate or cooperate with team members.	
	TID3	I need to collaborate with my colleagues to perform my job well.	
Trust (Lewis 2003)	TMSb1	I was comfortable accepting procedural suggestions from other team members.	0.813
	TMSb2	I trusted that other members' knowledge about the project was credible.	
	TMSb3	I was confident relying on the information that other team members brought to the discussion.	

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Man power Forecasting and Strategies for Sustainability for the Indian Banking Sector

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Abstract

In today's competitive business environment where the developing countries in the world have opened the doors of their economy for foreign players through liberalization, the local business conglomerates are facing immense pressure to effectively attract and retain talented professionals. This has resulted in the shortage of talented manpower in certain segments of the industry and the banking industry is no exception. This paper focuses on the manpower requirements for the Indian Banking sector along with the supply available. System Dynamics (SD) method of modeling and simulation is employed in the study. A manpower planning model is developed and simulated. The demand-supply gap is analyzed. At the current level of operations, it is seen that ten years down the line banking industry will face acute manpower shortage due to the migration of talented professionals to other attractive profession and superannuation of existing employees will aggravate the problem. A policy of setting up training institutes to cater to the needs of banking sector is proposed and evaluated along with the anticipated sector growth rate of 10%. Implementing the policy would improve the shortage of manpower significantly.

Keywords:Man power planning; Nationalized Banks;System Dynamics.

1. Introduction

According to the Reserve Bank of India (RBI), the Indian Banking sector is sound, adequately ca pitalized and well-regulated. The financial and economic conditions in India are much better than many of the developed countries in the world. It is to be noted that Indian banks have resisted the recession well. As per the KPMG- CII report, India"s banking and financial sector is swiftly growing and can probably become fifth largest banking sector in the world by 2020 and third largest by 2025. The banking industry in India is worth Rs.81 trillion (US $ 1.31 trillion). Both public and private sector banks are increasing dependent on technologies like internet and mobile applications to render service to the customers. The banking sector in India consists of around 46 commercial banks competing for business with a few foreign and regional co - operative banks. The nationalized banks share about 80 per cent of the business and the remaining is shared by the private players. Standard and Poor has estimated that the banking sector in India would grow by 12-13 per cent annually from the financial year 2016.

With the government indicating to issue new licenses, banks colluding with insurance agencies to sell insurance policies, the vision of banks to open more number of branches along with the RBI and governments efforts to extend financial services to rural areas, the hiring in the banking sector may get a boost in the future. Furthermore it is to be noted that most of experienced employees in the banking sector are due for retirement in the near future which would mean that there is a dire requirement of talent. The workforce requirement for the banking sector was estimated around 4.2 million between 2008 and 2022 and the banking industry may generate around 20 lakh new jobs in the next 5-10 years.

Talented manpower in banking sector has played an important role in achieving customer satisfaction. The main challenge for the banking sector is the scarcity of skilled manpower to meet the growing needs of economy. The problem will increase due to the retirement of experienced employees

in nationalized banks. Also it is observed that qualified professionals are taking banking service as an intermediate job until they find a lucrative offer. Hence there is a pressing need to carefully analyse the demand-supply gap of talented manpower for the banking sector and take steps to reduce the gap so that there is sufficient number of employees to meet the challenge.

The objective of this paper is to assess the requirements of talented manpower for the Indian banking sector by developing a SD model. The model is simulated to capture the demand and supply of manpower for the next fifteen years. Then the projected supply is compared with projected demand and recommendations are made to maintain optimum level of workforce.

2. Literature Review

In the past, researchers had given little importance for the need for planning manpower for various occupations. They were of the belief that workforce replacement was relatively easy and a pay variation would plug the gaps (Papps 2001). But according to Hughes (1991), the new generation researchers argued that the labour market is inflexible. Therefore manpower planning is crucial for the development of strategies to ensure continuous supply of labour in future. The two important roles of manpower planning are information role and the policy role (Hughes 1994).

The goals of manpower forecasting are to evaluate the current state of labour market and anticipate changes and to evaluate the effect of various policies on manpower availability (Papps, 2001).

The process of ensuring that right number of people with right qualification on the right job at the right time is called as manpower planning (Ritcher 1984). The basic technique to forecast manpower is providing a provisional forecast based on industry growth rate.

A particular strategy is adapted by a firm to fit its core competencies, needs and circumstances. Business strategy can be defined as a set of responsibilities developed to exploit core competency and to increase competitive advantage (Liao, 2004). These strategies are planned to improve the organizational resources (Dess et al., 1995), and to lead the future course of actions which are focussed to achieve end results (Slevin and Covin, 1997).

The strategic importance of Human Resource (HR) department is ignored in many organisations and they view the HR department as an administrative function. Hence the HR department is not integrated while formulating the business strategies (Huselid et al., 1997). Human Resource Management (HRM) practitioners have been demanding to align HRM practices with business strategies for increased business performance (Van Eynde and Tucker, 1997). To attain higher business outcomes, there must be an alignment between HR practices and organisational strategies (Wright and McMahan, 1992).

Roy and Koul (2009) and Chung et al. (2010), used System dynamics to forecast manpower in steel plants and health services respectively. Similarly Wu et al. (2003) and Park et al. (2008) applied SD to study manpower requirements in enterprises and information security industry respectively.

Hence from the above literatures it can be concluded that, HR planning is an important function to keep all the positions filled for business continuity and the HR department must be included in the strategic planning process so that the manpower needs for the future can be addressed. SD can be used as tool to model and simulate the manpower requirements considering the various parameters.

3. Research Methodology

3.1 System Dynamics

System Dynamics approach of modelling and simulation as proposed by Forrester (1994) is employed in the current research. The research steps in the proposed methodology as highlighted by Sushil (1993) include: Problem identification, System Conceptualization, Model formulation, Simulation & validation, and Policy analysis & improvement. Vensim®, the simulation software which is used in this research is developed by Ventana Systems, Inc. (Harvard, Massachusetts), and it is widely used software for SD modelling & simulation. Its purpose is to help companies to find an optimal solution for various situations that need analysis and where it is necessary to find out all possible results of future implementation or decision. Vensim® is able to simulate dynamic behaviour of systems that are impossible to analyse without appropriate simulation software, as they are unpredictable due to many influences, feedback etc. It helps with causality loops identification and finding the leverage points. While originally being designed for the analysis of industrial enterprises, nowadays system dynamics is applied to a variety of systems that change over time, in particular to socio-economic systems (Morecroft, 2007; Sterman, 2000).

The model is developed in five phases: problem articulation, formulating a dynamic hypothesis, formulating a simulation model, testing, and policy design and evaluation which is as shown in Figure 1.
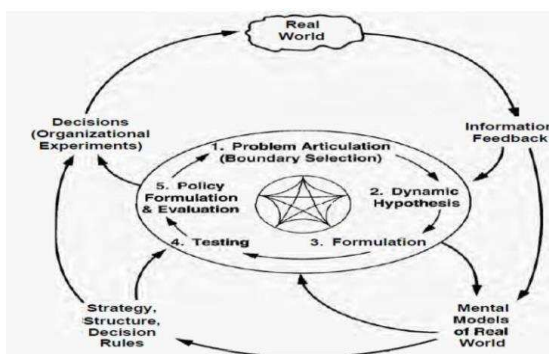

Fig.1.Overviewof asystem dynamics modelling process (Source: Sterman,2000)

Phase 1: Problem Articulation (Boundary Selection)

The model must bedeveloped keeping in mind the problem statement and only those parameters that influence the system. Hence the entire complexity of the system need not be considered. This can be explained with the analogy of a map. The purpose of the map is to solve the problem of a location by providing the necessary information to commute between two points. If the map is developed with out considering the core purpose and includes all intricacies of the region, it may shift the focus to complexity thus reducing its utility. Therefore, it is desired to have a specific goal while developing the model so that a specific problem is solved instead of attempting to imitate the entire structure in detail. Hence the model boundary and scope can be fixed.

Phase 2: Formulating a Dynamic Hypothesis

The researcher‟s knowledge, available literature and the opinions of experts of the associated industry forms the basis for the development of the hypothesis. In the process of formulating hypothesis, the various opinions that arise must be captured. Only endogenous variables (i.e. the variables that have direct impact on the working of the model) are considered while developing the model and exogenous variables (i.e. external factors which are uncontrollable) are either considered partially or completely excluded. Parameters that are not interconnected to the problem are omitted as they just add to the density of the model without offering any extra benefits. While formulating the hypothesis, different SD tools such as causal loop diagrams, stock and flow diagrams are used.

Phase 3: Formulating a Simulation Model

Formulated dynamic proposition (by considering all the opinions that had surfaced while formulating), a simulation model is developed to capture the interrelationships between the dynamic systems. The various ideas developed in phase 2 will be represented in the form of equations in this phase. This phase systematizes the conceptual model so that it can be simulated for a given number of conditions. This is achieved through repeated processes until the desired outcome is achieved which matches the real world situations. Based on the observations the model is continuously refined until an acceptable model is obtained. Finally, the identified variables are interrelated using mathematical relationships.

Phase 4: Testing

Testing of the model occurs throughout the modelling process; however an extreme conditions test must be conducted once the final version of the model is available. These tests may include testing of the model under hypothetical conditions the likelihood of which is rare in real life known as „extreme conditions‟, but these tests have to prove that the model responds to such situations realistically. Scenarios such as complete production stoppage due to machine breakdown, shortage of raw materials, and an abrupt increase in orders and so on are examples of extreme conditions. The model should also be tested for verifying the mathematical formulae and units of the variables. Finally the variables must represent the real world.

Phase 5: Policy Design and Evaluation

A manpower planning model is conceptualized by referring to past literatures during the formulation stage and tested continuously during the testing phase in order develop a robust model, with a proper structure and representation of the real world. Hypothetical values resembling the actual scenario form the basis for simulation. This enables the model to be self-learning. Existing data are keyed, in accordance with the existing policies and practices. The output generated by the model indicates normal running situation of the company. Then, to attain the desired state by implementing new policies and decisions, the relevant data are induced and the model is simulated again. Better results denote improvement, and worse results indicate a need for another attempt. In this phase, the model will be ready to produce results under multiple scenarios.

3.2 Model Validation

The process of ensuring that the developed model is accurate for the specific purpose is called Validation (Stewart, 1997).No model can be 100% accurate because a model is a replica of the complex system. It is developed to understand the complex system which is otherwise difficult to analyse (Pidd, 1992). The major problem simulation analysts are facing over the years is to determine if the developed model is the true representation of the system being studied, for the stated objectives. Hence a wide variety of tests have been developed to reveal the flaws in model and improve its performance.

3.3 Model Development

3.3.1   Causal Loop diagram

To begin with, a Causal Loop Diagram (CLD) representing the causal relationships between the various manpower planning variables is developed. The causal loop diagram is developed in two stages viz.

> 1. The demand for manpower and
>
> 2. The supply of manpower.

3.3.2   The Demand for Manpower

The current workforce of the bank consists of experienced employees, most of them attaining superannuation in the next six to ten years. Among the experienced employees, some may decide to take voluntary retire ment which will lead to job openings in the bank. Also there are employees who have begun their career in the banking industry and have a total experience of less than five years. The attrition rate among this group of employees is very high because there is a high tendency that they may leave the organization if placed in a better paying job. This will lead to vacancies in the bank. The vacancy created along with the growth rate of the bank will lead to total job openings in the bank.
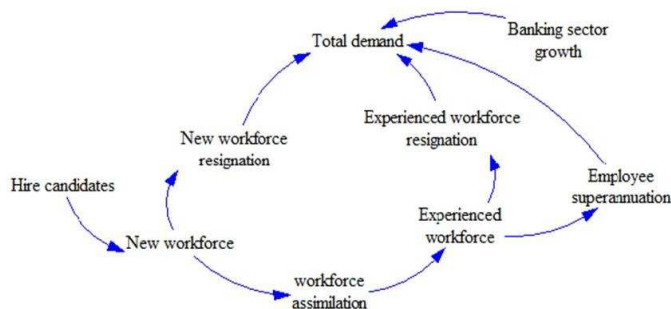
Fig.2. Causal loop diagram for manpower demand

3.3.3   The supply of manpower

The primary source of manpower for the banks is the educational institutes. The total supply consists of the undergraduates and the post graduates who are willing to take up jobs immediately. The actual availability of manpower will be the percentage of candidates who have applied for jobs in banking and financial institutes.
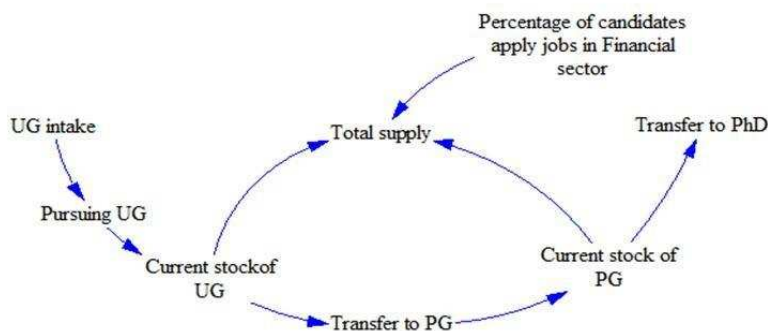
Fig.3. Causal loop diagram for manpower supply

3.4 Stock and flow diagram

Based on the parameters, those affect the manpower demand and supply in the banking industry, which were identified while developing the causal loop diagram, a stock and flow diagram is developed to forecast the manpower requirements. The stock and flow diagram is designed using Vensim software. The data for the supply of manpower is compiled from authenticated secondary sources. The data regarding the attrition rate, superannuation percentage and demand for manpower for the bank is extracted from published sources and from experts in the field. The stock and flow diagram is developed for the manpower demand and supply as below:

3.4.1   Stock and flow diagram for manpower demand

The hiring of candidates depends upon the actual new jobs created which is a function of vacancy created.

The vacancy created is the summation of employee resignations, employee superannuation and demand for employees due to the growth of banking sector. The probationary period for new employees is assumed to be six months and it is observed that new employees take a minimum of two years to adjust to the banking environment. The new workforce consists of employees who have a total experience of less than five years in banking sector and the experienced workforce consists of employees who have a total experience of more than fifteen years. The attrition rate among the new workforce is high and is assumed that on an average 20% of new workforce resign every year. The attrition rate among the experienced employees is negligible and is fixed at 5% per year but the superannuation per cent is high among them and is fixed at 15% per year. The banking and financial industry in India employs around ten lakhs employees across all levels.
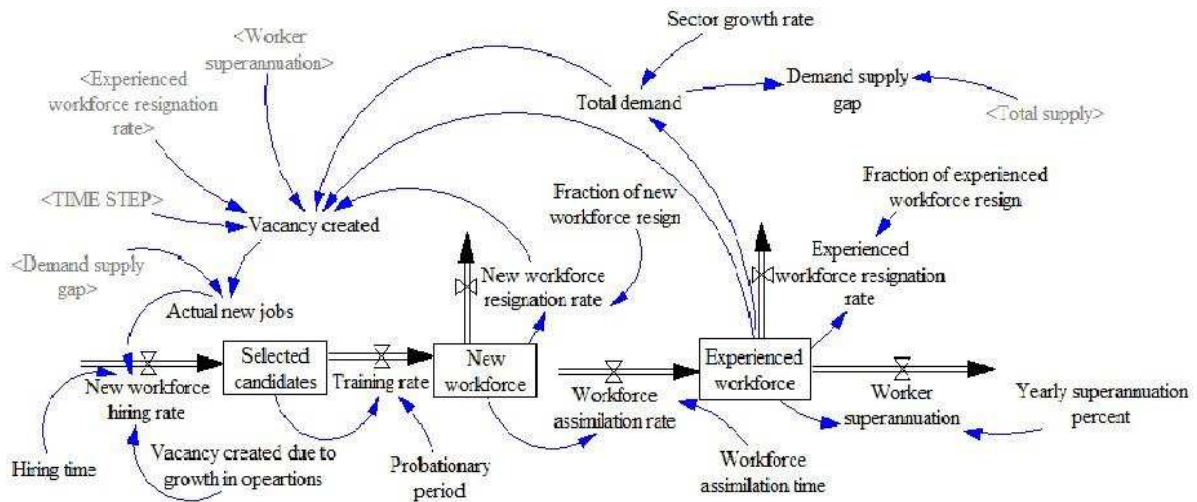
Fig.4. Stock and flow diagram for manpower demand

3.4.2   Stock and flow diagram for manpower supply

The primary sources of manpower for the banking industry are the graduates and post graduates from educational institutes in the country. Among the graduates and post graduates who are willing to take up employment immediately, there will be movement to other professions and a small per cent may migrate to pursue PhD. Therefore, among the available candidates a small per cent may be available to work in the banking sector. In India, on an average, 15 million candidates enrol for graduate education every year. The duration of UG course is considered as 4 years and PG course as 2 years.
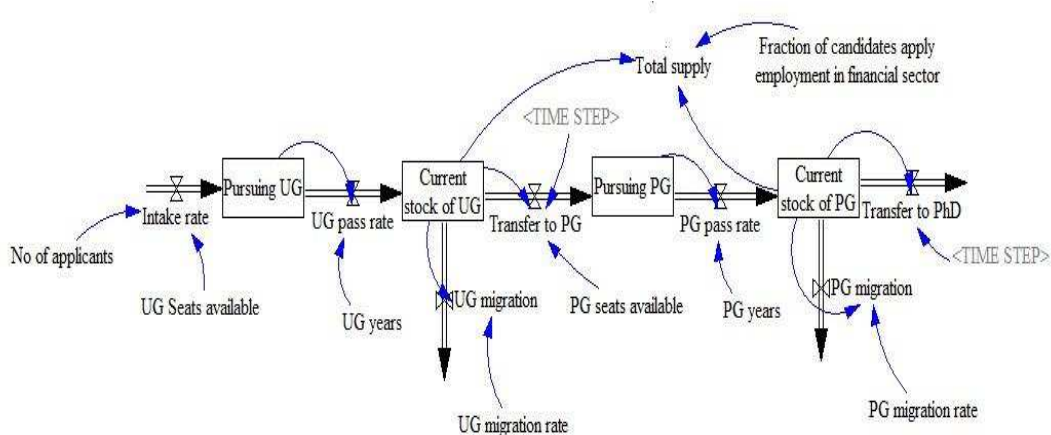
Fig.5. Stock and flow diagram for manpower supply

4. Results and Discussions

4.1 Base run results

The base run was realized considering the current level of operations (i.e. the candidates are recruited and selected as per the yearly hiring plan and placed in probation for six months and thereafter they progress in their career) and the manpower demand-supply parameters were studied for a period of fifteen years.

Selected Variables
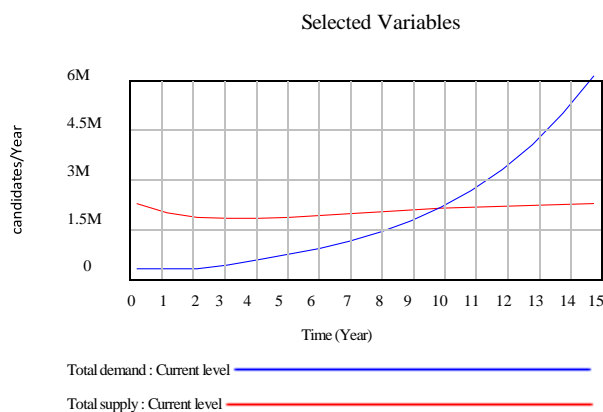
Fig.6. Demand and supply of manpower under current level of operations

The simulation results for the base run indicate that there is excess of demand over supply for manpower after ten years, indicating a shortage of manpower in the banking sector. This can be attributed to factors such as high turnover among the new workforce and a major chunk of experienced workforce attaining superannuation in the next ten years. Although 15 million graduates are available to work every year, the supply of workforce to the banking sector is not increasing. This is because majority of graduates are inclined to take up jobs in software and manufacturing sector.

4.2 Policyanalysisandoutcome

To alleviate the shortage of manpower in the banking sector, the banking corporations" efforts are necessary. The efforts should be directed towards establishing banking training institutes, wherein graduates are engaged and imparted on the job training on banking roles and responsibilities. The candidates can be designated asprobationary trainees and paid a minimum pay as per the pay policies of the bank. The training period should be for four years during which the candidates are trained on all the aspects of banking followed by a year"s probation. During the probationary period, the candidates can be assessed for the various skills they have developed so that they can be placed at suitable position for future roles.

With the above assumption of setting up a training institute, the model is rerun and its effect on manpower demand-supply condition is analysed.
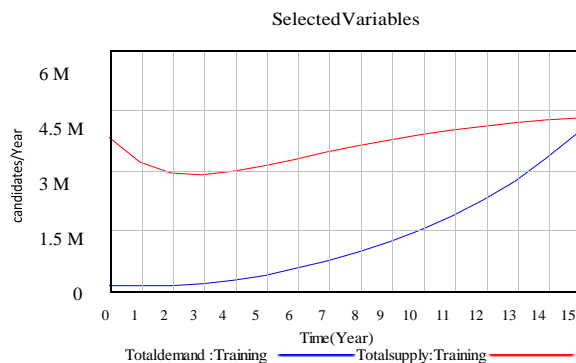
Fig.7. Demand and supply of manpower after setting up training institute

The policy of setting up training institute with an objective of attaining uninterrupted supply of manpower for the banking sector has shown tremendous improvements over the base run results. The supply curve is always above the demand curve implying that there will be continuous supply of manpower to meet future challenges. Hence setting up of a training institute would ease the situation.

5. Conclusion

This paper is focused on developing a unified demand supply model of manpower planning for banking sector in India. The base run results indicated that, ten years down the line the Indian banking sector would face acute manpower shortage and will be unable to serve the customers. Also it can be concluded that the banking sector would generate huge employment opportunities for qualified professionals in the forthcoming decade. After applying the policy of setting up banking training institutes, the problem of manpower shortage is eliminated. Hence, policy makers must think of taking appropriate steps in the future like forming a consortium of banks in establishing training institutes, number of candidates to be inducted and trained in these institutes etc. in order to attain sustainability in operations theseinstitutesetc.inordertoattainsustainabilityinoperations.

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Impact of Delivery Delay on the Manufacturing Firm Inventories: A System Dynamics Approach

Rajesh R.Pai, Sunith Hebbar and Lewlyn L. R. Rodrigues

Abstract

Optimizing the operations is a complex task due to the complexity involved in its various processes of a manufacturing firm. The operations such as planning, scheduling, tracking, monitoring and dispatching becomes a major task so as to satisfy potential goals of increasing throughput, reducing inventories and costs. In order to overcome this complexity, there should be a proper communication and relationship with the supplier within and outside the firm. This paper makes an attempt to study the impact of delivery delay on the finished goods inventory of a manufacturing firm, where the ordering is made according to the production forecast and also by considering the total warehouse capacity. Hence the main objective is to analyse the impact of delivery delay on optimising the materials in stock so as to gain the benefits from it for better performance of the firm on a long term basis. The key variables of study are Material Order Rate, Raw Material Inventory, and Material Usage Rate. Using System Dynamics (SD) methodology a stock and flow model is drawn using Vensim PLE software and the dynamic behavior of the system is studied by varying the delivery delay also, appropriate strategies and policies have been recommended for effective delivery of the material.

Keywords: System Dynamics; Material in Order; Raw Material Inventory; Material Usage Rate; Manufacturing Firm.

1. Introduction

In todays' market scenario, delivering product to the customers at the shortest possible time is a challenge for all the manufacturing industries. In contrast to this, most of the inventory problems arise because of interval of time between the decision to place an order for and the availability of the stock from that order to in order to meet the demand of the customer or for production setup. This time interval is called the lead time (Gudum, 2002). Any delay in the process of placing the order till the replenishment of the stock is called as the delivery delay. This delivery delays provides detrimental results for the company.

In manufacturing, delays occurs on a daily basis which results in ineffectiveness, inefficiencies, and poor performance of the products and its processes (Arunagiri and Gnanavelbabu, 2013). One of the reasons could be the performance measures which are defined and optimized for the each function within an organisation but not for the entire value delivery process (Viswanadham, 2012). In such cases, the main objective is to improve the communication between the company and other suppliers in terms of sharing methodology and information, and by designing the process in such a way so as to improve and to optimize the throughput, lead-time and cycle time. Moreover, it has been identified in the research work of Arunagiri and Gnanavelbabu, (2013) that 80% of process delay are caused by 20% time trap. By focusing on that 20% the problem of lead-time and total cost of acquisition, transportation and possession of goods and services can be reduced which creates benefit both to the buyer and seller. As a result, it provides a competitive advantage and improved profits.

In the traditional inventory models, the ordering cost and lead time are constant and not subjected to control. However, this may not be realistic. Alexandre Dolgui, Oussama Ben Ammar, Faicel Hnaien, and Mohamed-Aly Louly (2013), identified that lead time fluctuations strongly reduces tools performance and increases production costs. According to Christoph H. Glock (2012), lead time is varied by reducing setup time or by increasing the production rate, which results in a reduced production time. In the research paper

of Ali Arkan, Seyed Reza Hejazi (2012), identified that lead time is controllable with the addition of cost. Moreover, reduction in the lead time is considered as one of the most important variables for improving the performance of supply chain and controlling the lead time which is only possible by identifying the various factors which has an influence on it. Hence, by identifying these factors the firm can develop strategies which plays a significant role in the product and process development. A firm's supply chain strategy will have an influence on likelihood of obtaining assistance from supplier to deliver the materials on time, so as to avoid delays in parts manufacturing processes.

2. Literature review

In recent years, there has been an increasing trend in manufacturing industries to focus more on core manufacturing processes, leading to increasing interdependence on suppliers to supply the materials and the processes within the organizations for ordering and storing of materials. In order to have a proper coordination between the supplier and manufacturing industry all the functional units should integrate and work towards the achievement of the organisational objectives. Therefore Supplier Relationship Management (SRM) and Continuous Improvement Programs plays an important role for the performance of an organisation.

Considering the inventory, proper managing of inventory plays an important role in improving the supply chain performance which also satisfy customer's demands, smoothens production plans and reduces operational cost without causing any delay in the production processes (Lee and Wu, 2006). One of the major sources for building bullwhip effect is due to the use of poorly performing inventory policy (Disney and Towill, 2006). Automatic Pipeline, Inventory and Order Smoothing Policies and Order - Based Production Control System (APIOBPCS) were developed to cope up with the bullwhip effect but these polices reduce customer fill rate of a traditional supply chain (Cannella and Ciancimino, 2010). The bullwhip effect thus can be reduced by 55% by properly chosen ordering policy and forecasting method (Wright and Yuan, 2008). An inventory policy which adjusts with the marketing trend may perform better interms of bullwhip effect, inventory performance and fill rate, than other policies which could not adjust with changes in present competitive market (Chinna Pamulety and Madhusudanan Pillai, 2011).

From the literature identified by Lee and Chu (2005), it was found that information sharing is more beneficial where inventory policies are reformulated to make better use of shared information; and where higher levels of manufacturing capacity is available and where supplier lead time is longer and where retailer lead time is shorter (Moinzadeh, 2002).

Mohamed and Coutry (2015) identified that lead time is a critical measure of a supply chain's performance which impacts both the customer satisfactions as well as the total cost of inventory and observed that almost one third of the materials orders were delivered later than the scheduled due date and concluded that the company have to re-valuate the supplier and consider the removal of supplier that are inconsistent in the delivery times.

Porter (1980), proposes that an effective management of supplier relationships can be achieved by managing the firm's logistic and procurement programs, so as to attain a source of competitive advantage and thus contribute to the firm's profitability and performance (Adobor and McMullen, 2007). In order to have a competitive advantage, strategic supply chain management, with supply chain integration, have become the more important sources for improving the firms performance (Mihir Dash and Viswanathiah, 2011).

Contemporary views of Supply Chain Management and its relationship with the marketing research has attempted to increase understanding of the customer – supplier relationships in which the long-term co-operation simultaneously increases with the value produced by the demand chain and decreases with the overall cost of the chain (Heikkilä J, 2002).

With the help of the previous literature this paper focuses on the impact of the delivery delay on the performance of the manufacturing system which has been carried out using system dynamics approach. This method was founded by a group of researchers led by J. Forrester at the Massachusetts Institute of Technology (MIT) in the late 1950s. This methodology combines the theory, methods and philosophy needs to analyse business policy and decision making (Lihua Zhai, 2004). Chung et al. (2004) extended Pan and

Hsiao (2001) model by developing a minimax distribution with backorder discount and variable lead time. Srinivas and Rao (2007) developed an inventory model where the lead time for replenishing is assumed to be dependent which helps to make faster delivery, and further improves service level enhancing the customer satisfaction level thereby increasing market share of the business (Agarwal A and Shankar R, 2005). Peng, Peng, and Chen (2014) proposed a system dynamics model to analyze the behaviors of disrupted disaster relief supply chain by simulating the uncertainties associated with predicting post-seismic road network and delayed information and concluded that replenishment solution achieves the balance between the service level and the inventory level by planning inventory based on information sharing and adjusting the strategy according to the predicted fluctuations of the lead time.

This paper, makes an attempt to identify the dynamic behaviour of the raw materials in order, material inventory and material usage rate by varying the delivery delay (i.e. suppliers) based on the simulation results hence to adopt policies and strategies have been recommended so as to gain maximum benefits by reducing these delays.

3. Construction of the Model

The model is constructed for a manufacturing organisation based in India where the material is ordered according to the demand forecast which is the key input for the simulation. The major stock variables are Materials in order (which defines the pipeline inventory) Raw material inventory. The demand forecast directs the ordering rate and the lead time derives the rate of ordering but the supplier delay derive the acquisition rate which will be the input to raw material input. Similarly, output of Raw materials is derived through the usage rate which is influenced by total manufacturing cycle time. Total manufacturing cycle time in the model (Fig. 1) is defined as the sum of the takt time and the time elapsed through other delays (time lost due to other issues). Takt time is the actual time required to complete one production unit. Time elapsed due to other issues is nothing but the delays caused due to other issues like issues related to fabrication shop, quality issues etc., which directly influence on the rate of production. The stock and flow diagram for the inventory system is shown in the Fig. 1.
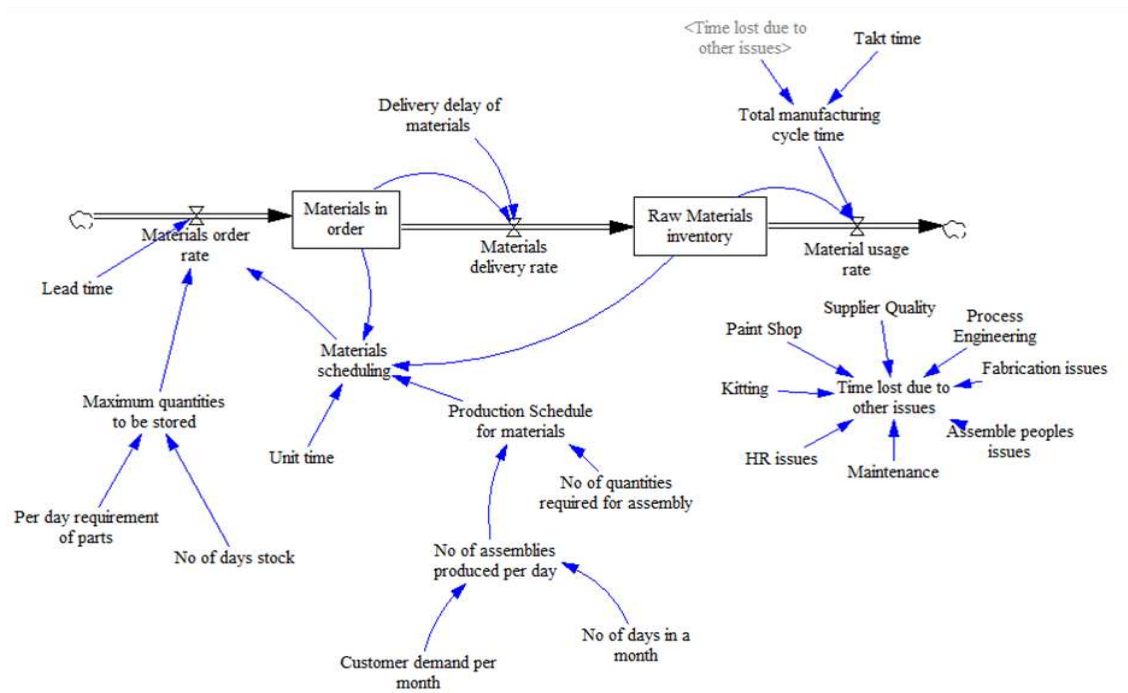
Fig. 1. Stock and flow diagram for the material inventory

4. Simulation results and analysis

The model is simulated for one month (30 days) under different time periods which is determined by varying the delivery delay (Supplier delay) from 2 days to 6 days with the step of 2 days.

It is observed that when the delivery delay is 2 days there is sudden increase in the materials in order because the ordering is done at a faster rate as the replenishment and consumption time is less which gets stabilized at around 18 days than compared to 4 days and 6 days of delivery delays for which system stabilizes at around 20 days (Fig. 2). These simulated graphs infer that for a delivery delay of two days the system is having a lesser amplitude of fluctuations and also stabilizes at a faster rate than the other two cases for the material in order.

Similarly, for Raw material inventory it can be observed that when the delivery delay 2 days there is a sudden increment in the raw material inventory by around 4 days which is earlier than the other two simulation which stabilizes around 6 and 7 days respectively (Fig. 3). This signifies that for a shorter lead time the response to the inventory requirements will be faster and the system stabilizes sooner.

Fig. 4, shows the response of the change in lead time on the material usage rate (i.e. production rate). It can be clearly observed that with the available inventory in the material store, there is almost 30% increase in the usage rate of material because of the increased production rate and this inventory will get stabilizes at around 13th day if they follow this strategy of keeping the delivery delay as 2 days.

From all the simulated graphs shown above, we can clearly conclude that the reduction in delay even by one day have a significant impact on key system parameters. From the graphs, we can observe that for a delay of 2 days there is a greater impact on system parameters that is for Raw material inventory the system stabilizes at 11th day which is almost 6 days earlier than the next simulated values for a delay period of 6 days. But it can be observed that reduction in delay form 6 days to 4 days will result in faster stabilization by only one day. Hence it is advisable to reduce the delay to 2 days form a current delay period of one week to get the maximum benefits. Accordingly, study has been carried to understand complexity involved in the supply process and appropriate strategies have been suggested for effective supply of the materials with a goal to achieve above requirement.
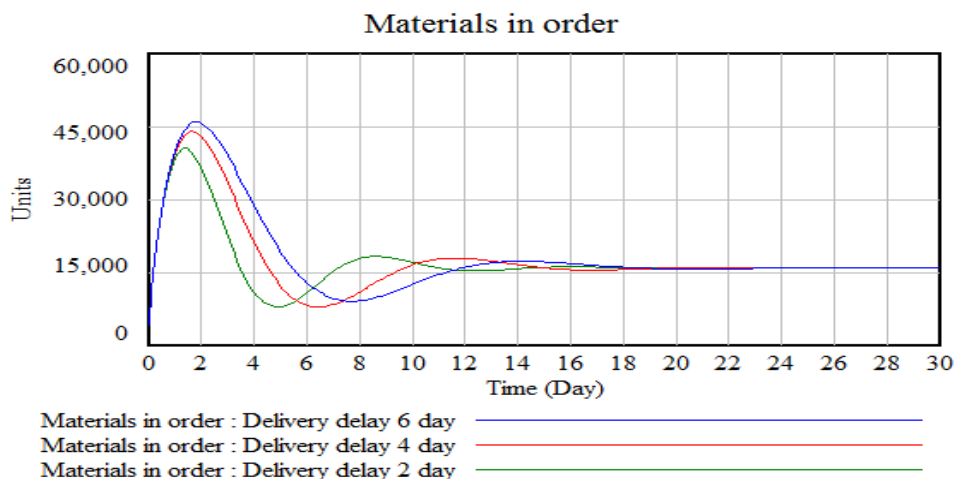
Fig. 2. Effect of delivery delay on Materials in Order
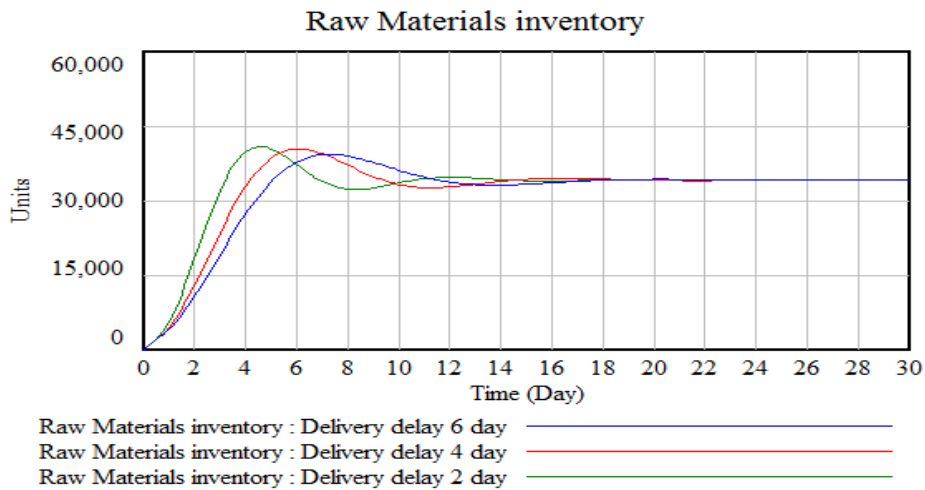
Fig. 3. Effect of delivery delay on raw material inventory
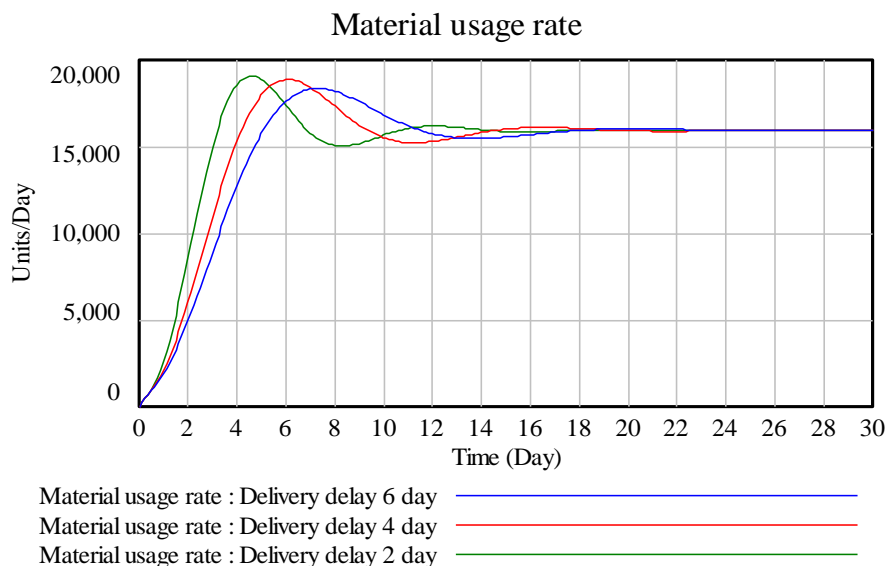
Fig. 4. Effect of delivery delay on material usage rate

5.   Inferences

It has been observed that when there is a delay in the delivery of raw materials i.e. from 2 days to 6 days, the materials ordered will get stabilized at a faster rate if the delay is 2 days as planned by the organisation than compared to the 4 days and 6 days. Similarly, it is observed that when delivery delay is 2 days the pilling up of raw materials inventory is less than compared to that of 4 and 6 days. This indicated that the delivery delay should not be more than 2 days.

Hence, the structure of the system (Fig. 1) between the supplier and the firm is analyzed and the reasons for delay have been identified and accordingly suggestions have been given.

   i. Suppliers should be given appropriate forecast in advance to manufacture and deliver the raw material in time.
If the manufacturing company can provide 2 months of firm forecast and a rolling forecast, the suppliers can also plan their operations effectively and supply the parts without any hindrance.

    ii. The design drawings and the Bill of Materials of the components in the suppliers firm should be the same as followed by the employees in the parent organisation.

   iii. Adopting Milk Run System & Economic Order Quantity (EOQ) for collecting and ordering of raw materials from the suppliers.
The advantages of adopting Milk Run System and EOQ is to help the organisation in setting up an inventory reorder point which will help in reducing the inventory holding cost which can be achieved by segregating the components according to ABC analysis on the basis of the total value of the components as indicated in Table. 1 below.

Table 1: Summary of ABC analysis

lass		(374 Machines per annum)
	total value	464,246,772
	% Value	85%
	Parts	34
	total value	63,667,729
	% Value	12%
	Parts	62
	total value	18,986,297
	% Value	3%
	Parts	290
	Total Value	**54,69,00,798**

   iv. Frequent supplier performance review should be done in order to trace the supplier who are not supplying the materials on time.

    Suppliers' performance is currently measured using Delivery Precision which is prepared on the basis of total quantity supplied by them without considering exact date of ordering and receiving the particular item. Hence, the process should be structured by comparing the Purchase Orders raised against requirement with the invoice date raised on the day of shipment.

    v. Inventory counting should be done by the parent organisation so as to order the right quantity of materials in the right time.
Inventory counting helps the organisation in tracing the inventory levels and reduction of the wastage of materials. So that right quantities can be ordered at right time.

6. Conclusions and Future Scope

This paper proposes a SD methodology to study the effect of delivery delay (supplier delay) on raw material inventory and production rate which is indicated through material usage rate. By knowing its impact the company can gain maximum benefits from the processes by implementing proper policies and strategies to control the delivery delay. One of the effective strategies to reduce the delay by maintaininga good relationship with the supplier. Therefore Supply Relationship Management (SRM) plays a key factor in reducing the delay and also in improving the processes of the company. While carrying this analysis there may be some parameters influencing the same which have not considered in this study as these analysis are based on system perspective (i.e. system thinking). On successful implementation, there will be continuous and accurate flow of materials at the right time and in the right quantity with optimum cost. Also, effective SRM and internal process of the firm will help better adaptation to the changing requirements which helps in gaining the competitive edge over its competitors in the market on a longer perspective. A balance can also be maintained by using a system of Kanban system and other lean techniques.

The future scope of this research can be on a detailed analysis of all other parameters and its influence on system performance. Also, this research can be carried out to analyse the impact on a system performance when there many suppliers which increases the complexity and hence it makes supply a challenging task.

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Urbanization and Its Impact on Environmental Sustainability in the City Of Bangalore: A System Dynamics Approach

Sunith Hebbar, Rajesh Pai and Lewlyn L. R. Rodrigues

Abstract

The wave of urban growth in India is spreading across the country, particularly since the past decade, and the associated complexities in terms of resource utilization are inevitable. The pace and the scale of urbanization are to the extent that it has already resulted in shortages of resources, the solution to which has become a compelling necessity. The issues are multidimensional but interrelated. Firstly, increasing population has resulted in scarcity of space (hence deforestation), and increase in vehicle numbers (hence traffic congestion). Secondly, the major issue is with the pollution of air and other resources, mainly water and soil. This study is based on these burgeoning problems which have occurred in the city of Bangalore popularly known as 'Silicon City' of India. The main focus of this research is to study the impact of current growth rate (urbanization) on the traffic congestions, pollution, and on health. System Dynamics methodology is used in this research to identify the interdependency of various factors influencing the issue (i.e. Urbanization & traffic congestion) and a causal loop diagram is developed. The attempt is to deviate from viewing the problem from a linear point of view and move towards a systems perspective, so as to understand the complex nature of the issue. The causal loop diagram will also enable the development of a stock and flow diagram, which can be used in forecasting the long term impact of urbanization on environmental sustainability.

Keywords: Urbanization, Pollution, Vehicle Emission, Environmental Sustainability, System Dynamics

1. Introduction

One of the greatest constants in today's world is change and the major reason for this is human beings and their desire to have an improved standard of living. This persistent desire has resulted in drastic developments in every aspect of the economy and it had the most impact on industrialization. The process of development is still on in its varied forms. The direct consequence of this development is the process of urbanization which entices a large rural population to migrate to the cities.

There is no denying that we all need economic growth and continued improvement in general well-being. It is evidenced in the way we moved from postal systems to mobile phones for communication, and from the rugged carts to the advanced automobiles for transportation, and many more such cases in other areas. However, these seemingly beneficial developments often come with a greater cost. The indirect consequences of these developments on the ecosystem and environment get ignored in the excitement of sophistication. Eventually, we would be forced to face the greatest challenges of depleting resources, increasing pollution, global warming and so on. We can recall the line "Today's problem comes from yesterday's solution", (Senge, 2004). One of the reasons for our failure to see the long term impact of our action is due to its complexity. However, people are increasingly becoming aware of the complexity and adopting tools of systems thinking to grasp this.

This research aims to study the impact of urbanization on the environmental sustainability in the city of Bangalore, India. The city of Bangalore is amongst the top ten preferred entrepreneurial location in the world. Bangalore is India's third most populous city and fifth-most populous urban agglomeration (Amandip, 2012). During the 1980s, the urbanization had spilled over the city and ever since, there is continuous rapid development. Bangalore's USD 83billion economy in 2012 makes it one of the major economic centers in India (DESK, 2010). With an economic growth of 10.3%, Bangalore is the second

fastest growing major metropolis in India, and is also the country's fourth largest fast moving consumer goods (FMCG) market. According to the census 2011 the population of Bangalore is around 9621551 people with a migration percentage of 13.4% (Census, 2011). As a result of this rapid growth, problems which the city is facing today are increasing population, traffic congestion and major pollutions.

Several researches are being carried out both by academic researchers as well as public bodies in the field of urbanization and its impact on ecology in the city of Bangalore. The proposed study is specifically focused on traffic congestion and its influence of air pollution as a major component along with which water and soil pollution are being taken into consideration fairly. System Dynamics (SD) methodology is being adopted as it is one of the popular tools in recent times in systems thinking. The main objective of this research is to study the impact of urbanization and hence increased traffic congestion on the environmental sustainability on long run.

2. Literature Review

Environmental sustainability is the one of the key areas of research in the present day scenario due to the increasing awareness and stringent regulations by the government. The highest scopes of research on these are in the urban locations due to the rapid growth of industries, vehicle population, etc. A study on benchmarking sustainability in which comparison of Bangalore was done against the Mumbai (major metro city of India) has proved that in recent time the rate of change over the years of key sustainability parameters like economic, social and environmental, is highest in Bangalore compared to Mumbai (Sudhakar and Balachandra, 2013). Sudhir and Prashant (2008), in his research had made an extensive study on the growth of traffic and its impact on congestion, some of the key findings of this research were motorization index is increasing at around 10% and average movement speed reduced to 40Kmph to 25Kmph. Shiyong L. et al. (2010), has developed a framework using a SD methodology for studying the dynamics of traffic congestion on costs. Similarly a SD methodology was used to study the impact of congestion, and its influence on air pollution and desired strategies for the welfare of the ecosystem (Frederick et al., 2010; Sokolowski, 2010) The other key issue which the city is facing along with traffic congestion is pollution. Research has proved that 50% air pollution in the city is by dust and other key pollutants are sulphur and lead. Stave (2010), in his research has studied the influence of urbanization on air quality, waste generation and landfill, water resources through building a model with a purpose of sustainable and effective management of the environment. Having realized the importance and usefulness of systems thinking and its tool (i.e. SD modeling) this research is aimed to study the influence of urbanization considering the increase in population and its impact such as traffic congestion and major pollution like air, water and soil. Even though the main focus is on traffic and pollution of air other factors are being taken into consideration. The parameters and its interrelationships are shown using a causal loop diagram (Fig. 1).
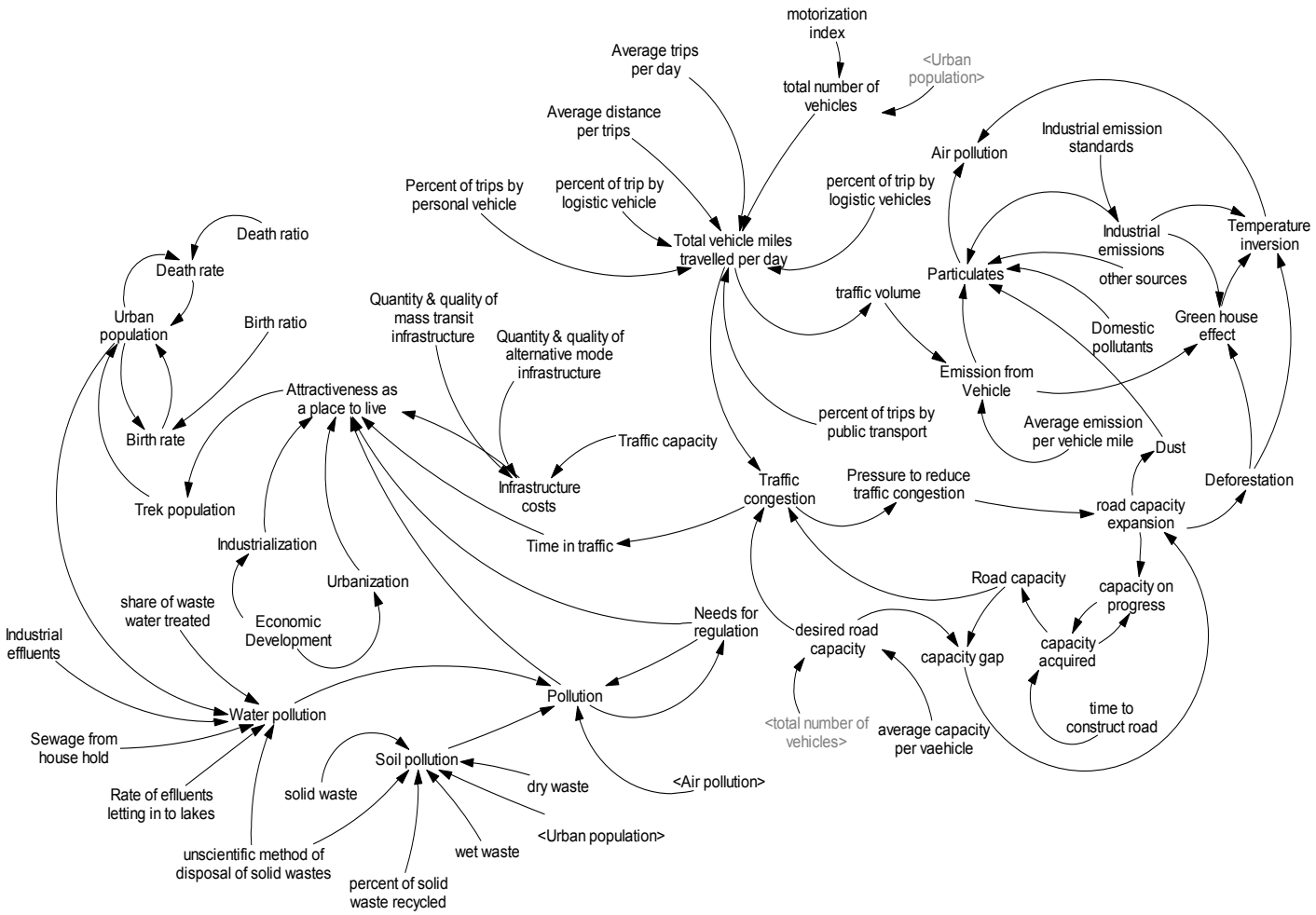
Fig. 1. Causal Loop Diagram for Traffic Congestion and Pollutions

motorization index

Average trips per day

total number of vehicles

<Urban population>

Average distance per trips

percent of trip by logistic vehicle

percent of trip by logistic vehicles

Air pollution

Industrial emission standards

Percent of trips by personal vehicle

Total vehicle miles travelled per day

traffic volume

Industrial emissions

Temperature inversion

Particulates

other sources

Quantity & quality of mass transit infrastructure

Quantity & quality of alternative mode infrastructure

Domestic pollutants

Green house effect

Death ratio

Death rate

Urban population

Birth ratio

Emission from Vehicle

Birth rate

Attractiveness as a place to live

Traffic capacity

percent of trips by public transport

Average emission per vehicle mile

Dust

Trek population

Infrastructure costs

Traffic congestion

Pressure to reduce traffic congestion

road capacity expansion

Deforestation

Time in traffic

Industrialization

Urbanization

Needs for regulation

Road capacity

capacity on progress

share of waste water treated

Economic Development

desired road capacity

capacity gap

capacity acquired

Industrial effluents

Water pollution

Pollution

<total number of vehicles>

average capacity per vaehicle

time to construct road

Sewage from house hold

Soil pollution

solid waste

dry waste

<Air pollution>

Rate of effluents letting in to lakes

unscientific method of disposal of solid wastes

wet waste

<Urban population>

percent of solid waste recycled

3. Research Design and Methodology

A system dynamics modeling is adopted where a stock and flow diagram of traffic congestion and simultaneously its influence on pollution is built (Fig. 2 and Fig. 3). The base model is taken from Shahgholian and Hajihosseini (2009), where a model was built on studying the air pollution rate in one of the cities of Iran.

The stock and flow diagram consists of major stock variables of population where the birth ratio and death ratio are being considered to define (Census, 2011). This can be used to analyze the particulate emissions, representing air pollution, through vehicle emission, industrial and domestic emission as major sources of pollutants. Population can also be used in determining waste generated and the sewage generated per capita on a daily basis. These variables are being controlled by recycling of solid waste and sewage water treatment which reduces the intensity of pollution. These three pollution viz. Air, water and soil pollutions are defined as stock variables. One of the major parameters contributing towards air pollution is the number vehicles running around the city every day. To identify this motorization index has been used. The stock and flow diagram representing these dynamics of pollution due to urbanization is represented in Fig. 3.

The other important component of stock and flow diagram is traffic congestion and its dynamics. Crowding of vehicles on the road has resulted in more and more emission of carbon particulates into the air and is has become a potential threat to the health related issues. The available capacity of the roads in the city to hold the vehicles and move smoothly is being compared to the number of vehicles and the desired capacity in terms of area required for free movement (Shuo, 1990). When the pressure to congestion builds it is assumed that immediately an action is taken to build on the road capacity. The other important parameter of study is total number of trips in a day by the vehicles. Here the different types of vehicles like logistics vehicles, public transport and personal vehicles are being considered and accordingly the traffic volume is defined. The average number of trips is being considered to be a minimum of two trips per day per vehicle. The structure of the model is as shown in Fig. 2.
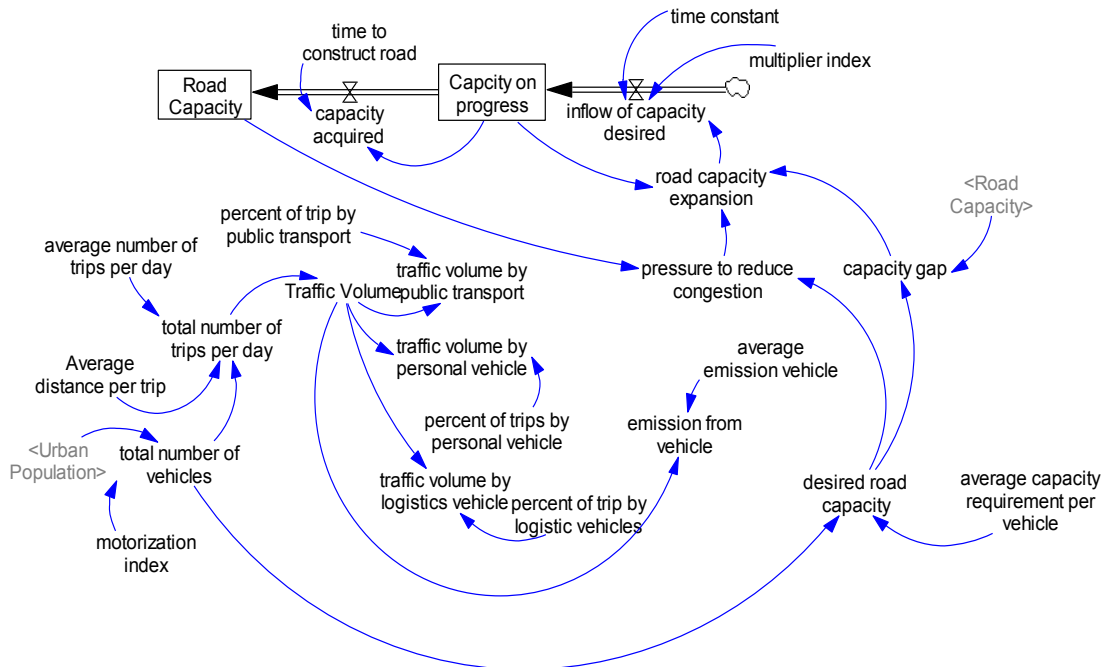
Fig. 2. Stock and Flow for Traffic Congestion
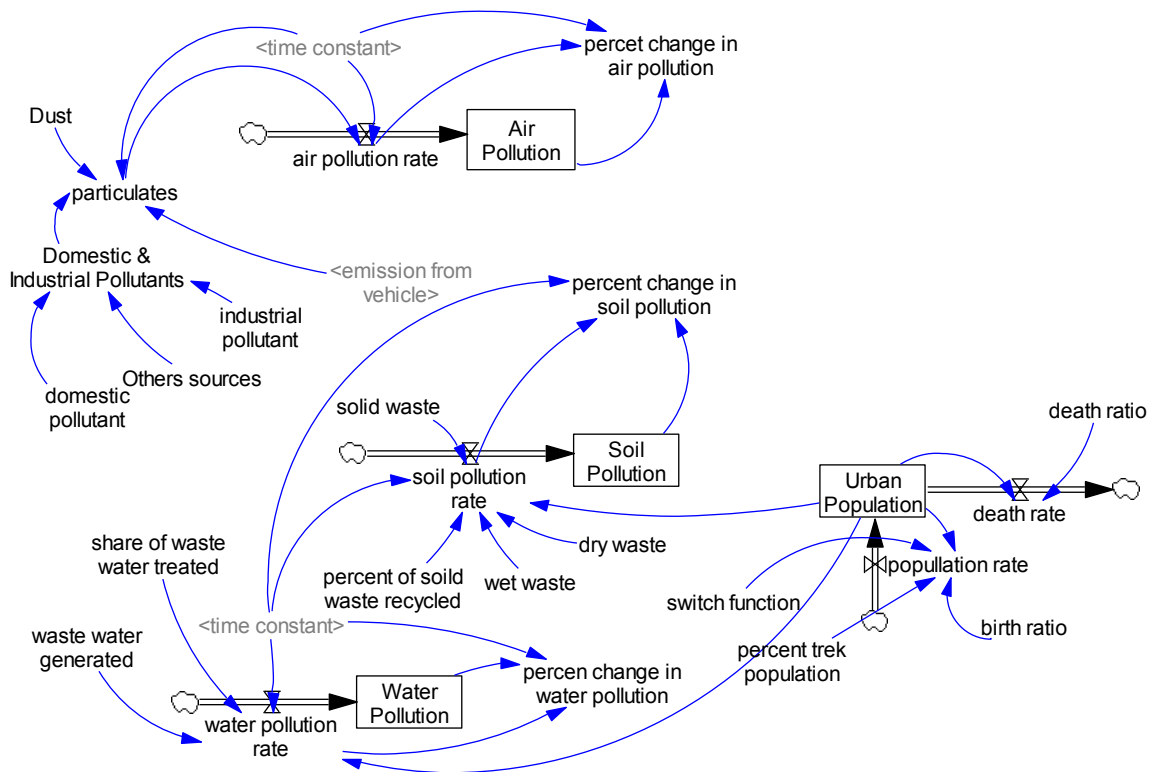
Fig. 3. Stock and Flow for Pollution

4. Results and Discussion

The model is being simulated for a period of 30 years by varying the two key parameters for study purpose. Firstly, analysis is being carried out on how a reduction in average emission per vehicle by improved regulation influence air pollution. Secondly, the impact of increasing migration on the environmental sustainability is being carried out.
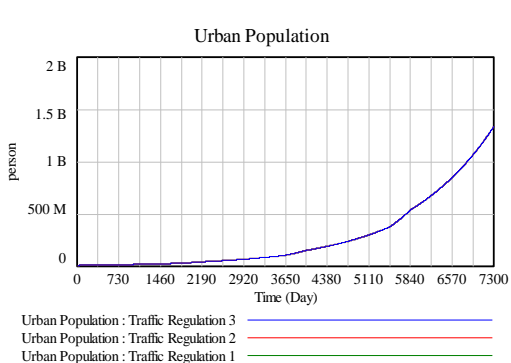
Fig. 4a. Population growth over the years

Fig. 4b. Growth of vehicles over the years

4.1. Reducing average emission per vehicle:

Here, the model is simulated for three scenarios where the emission from vehicle is reduced from an average of 117g/Km to 110 g/Km and 105g/Km. The impact of these on emission from vehicle, air pollution are studied. The population and number of vehicles in the city are increasing over the years and are represented in Fig. 4a & Fig. 4b.

With this rate of growth, the impacts of stringent regulations resulting in a declining rate of emissions from the vehicle are being studied and the simulated results are being depicted in Fig. 5 and Fig. 6 respectively.

The impact of reduction in particulate emission from 117g/Km to 110 g/Km and finally to105g/Km is analyzed for every five years starting from now to next 15 years. The depicted graph is shown in Fig. 5. It can be observed that there is around 4.8% reduction in vehicle emission if regulation 2 is achieved and 10.2% reduction if regulation 3 is achieved.
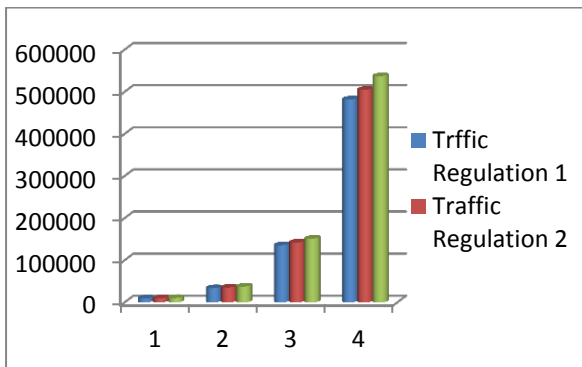
Fig. 5. Vehicle emission for traffic regulations
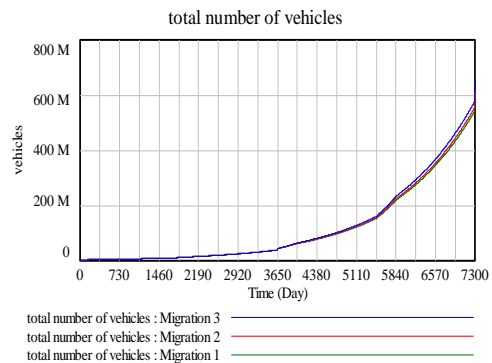
Fig. 6. Influence of migration rate on total number of vehicles

4.2. Impact of increasing migration on the environmental sustainability

Here, the migration rate is increased from actual 13.4% to 14% and to 14.5% and its impact on the number of vehicles, total number of trips (Fig. 6), air pollution, water pollution and soil pollution are studied. The simulation graphs are depicted in Fig. 6 to Fig. 10.
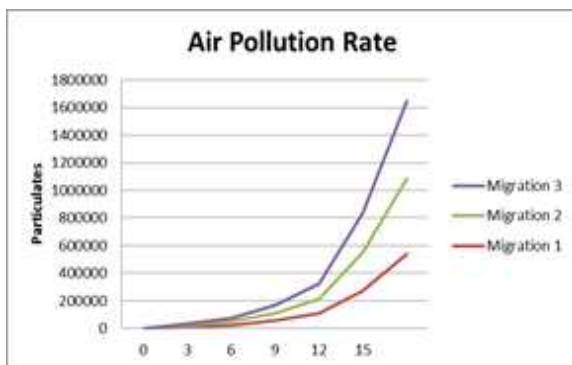
Fig. 7. Influence of migration rate on air pollution rate   Fig. 8. Influence of migration rate on soil pollution rate
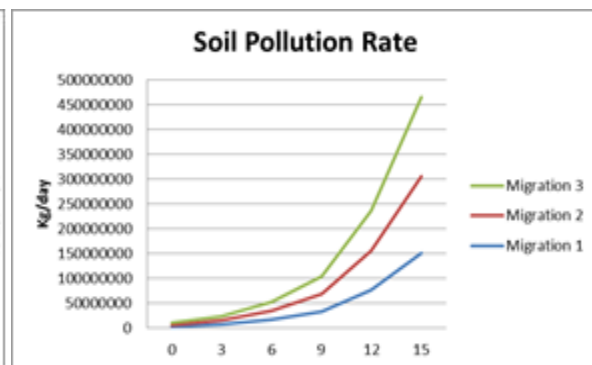
It can be observed that increasing migration has a severe impact on the air pollution rate (Fig. 7), which increases to around 3% during 6th year, then at the 15th year pollution rate increases by 5%, resulting in a total emission of 563827 tons per day as compared to 537435 tons per day in the fifteenth year.

The migration rate has similar impact on soil pollution (Fig.8). Here the soil pollution is refers to merely the waste generation which are not been recycled. It can be observed that the waste generated increases from 151954 tons/day to 159418 tons per day which is again around 5% increased rate during the 15th year. In the water pollution (Fig.9) the sewage generated is considered as the major source of water pollution. The generation of sewage increases to a very high value of 21592400000 from 20581500000 liters/day, for the three simulations in the fifteenth year. Finally the total number of trips increases to 4818050000 Km from 4592470000 Km in the 15th year (Fig. 10).
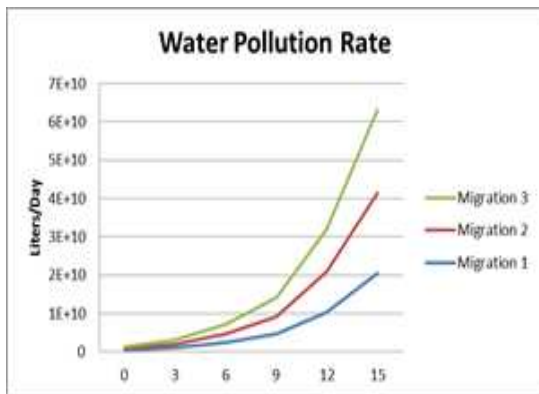
Fig. 9. Influence of migration rate on water pollution rate
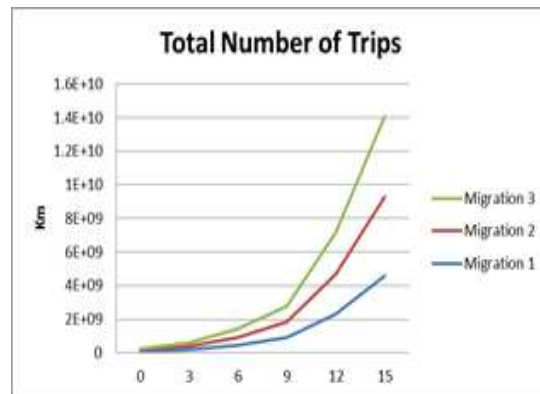
Fig. 10. Influence of migration rate on total number of trips every day

5. Implication

Certainly, everyone knows urbanization will have a harmful impact on the ecosystem. However, the uniqueness of SD is that we can approximately find the amount of influence these key variables has on the ecosystem. From the simulation we can imply that migration has a severe impact on traffic congestion, air pollution, water pollution and soil pollution. It has been observed that there is around 5% change in all the forms of pollution under consideration when there is a small change in the migration rate. Further, controls in vehicle emission through stringent regulation have resulted in a 10% decrease of vehicle emission and hence, on air pollution. Therefore, appropriate strategies must be adopted in order to control the vehicle emission rate and all the other forms of pollution.

6. Conclusion and Future Scope

From the simulation and analysis, it can be observed that there is around seven percent increase in the vehicle number due to the change in the migration rate, which has resulted in an increased number of trips per day and hence the emission by vehicle. Thus, a proper monitoring on road capacity and vehicle growth is necessary so that in later stages it would not result in severe congestion problems. Also, results have shown an increased pollution rate in the city of Bangalore (Fig. 7 to Fig. 9) And check on this is quintessential for environmental sustainability.

The entire study focused on Bangalore city which is growing at a rapid pace during the past few years. This research tried to analyze the extent of impact growth has on the attractiveness of the city as a place to live. Through the research it can be concluded that even though the opportunities are immense, there are various factors which increase the health risk of the people and reduces the attractiveness. Hence, it is necessary to take certain actions where the state can focus on growth by permitting the new IT or any other organizations to get into other nearby cities such as Mysore or some major cities like Mangalore or Hubli instead of Bangalore. This may result in a check on the migration rate into the city.

In the future, scope a detailed study considering all the factors of CLD into stock and flow diagram and analyzing through various policies can be done. Also, study can be carried out on air pollution and other forms of pollution individually so as to study the impact of these on human life. Further, the model can be used to study on the road capacity requirements which are not considered in the current research.

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The Understanding on Islamic Banking System: Analysis of Selected Banking Institutions Staff

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Abstract

The financial crisis to the world has opened up a new dimension to the Islamic banking system to the world. In the early 1980s, some Muslim countries have begun to take seriously the establishment of the Islamic Banking System, including Malaysia. Bank Islam is the first bank to use the Islamic Banking System. Malaysia currently has a total of 19 banking institutions have adopted the Islamic Banking System. However, not all people who understand this concept fully understanding even the bank staf to implement Islamic Banking System to community. Therefore, the main focus of this research is to examine the extent to which bank staf understanding of Islamic Banking System. Understanding the system is very importance to the staf because they represent their banks in promoting and introducing Islamic Banking System. The second objective of this study was to examine the extent to which staf are able to differentiate between the Islamic Banking System and Conventional System. The final objective is to see whether the courses provided by the bank or not enough in understanding the staf. Respondents in this research is Staff bank that offer Islamic Banking in entire Peninsular Malaysia. This research is a quantitative study by distributing questions to respondents. A total of 124 respondents participated in the study. The results showed that the level of understanding of the respondents are located at a satisfactory level yet so the parties should enhance training courses to enhance the understanding of the respondents against the Islamic Banking System.

Keywords: Islamic Banking System, Conventional Banking System; Staff

1. Introduction

By the '80s the Malaysian community is dwindling to show high interest in Islamic Banking System (IBS) for centuries after they were dealing with conventional banking system. In line with these developments, Islamic banking institutions are also in the mainstream when it's by offering Islamic banking products synonymous with the awareness and interest of the community at that time. Banking institutions that offer earlier this IBS is a banking institution that offers a wholly conventional banking system. Although they have been applied for the innovation of their operating system to IBS than previous technology, but the change that occurs only on systems rather than to the staff in full. According to Sulaiman Abdullah Saif Al Nasser, & Datin Dr Joriah Muhammed (2013) IBS were based on two main principles which is sharing the profit / loss and the prohibition of collecting and payment of interest.

Before the existence of IBS, Muslims largely dependent on traditional banking. With the establishment of Islamic banking institutions in addition to a deep awareness of the concept of Islam itself, IBS began to be hunted Muslims today. The early history of Islamic banking can be viewed with the establishment of the first Islamic bank in the world, Dubai Islamic Bank in Dubai United Arab Emirate (UAE) in 1975, followed by the Islamic Development Bank (IDB) in Saudi Arabia in 1976. Around the year 1976 to the year 1985 for the rapid establishment of financial institutions around the world like mushrooms after the rain, where many countries have turned to the Islamic banking system, these countries are as Pakistan, Sudan, and Iraq (Kamal Naser, & Luiz Moutinho, 1997), Brunei (M. Shahid Ebrahim, & Tan Kai Joo, 2001) Singapore (Philip Gerrard, & J. Barton, 1997) and Indonesia (Abduh, M., & Azmi Omar, M, 2012)

The success of Islamic banking also attract non-Muslim countries. The first non-Muslim countries to establish an Islamic bank is the Philippines with the Philippine Amanah Bank establishment in 1973 at the

request of the Muslims in southern Mindanao. There Luxembourg emerged as the second non-Muslim countries which set up an Islamic bank with the establishment of the Islamic Banking System International Holding in 1978. The measures taken by the two countries followed by the non-Muslim countries such as Switzerland (Dar al-Maal al-Islami) , USA (LARIBA Finance House) and several other non-Muslim countries (Mokhtar Mahamad, & Izah Mohd, 2010)

The starting point is the establishment of Islamic banks in Malaysia begins when the call and demands of the community to set up the banking system. It is also influenced by the rise and success of Islamic banking institutions in the Middle East. In addition, this proposal was voiced by Bumiputera Economic Congress in 1980 to set up an Islamic bank. This proposal became reality when the establishment of the first Islamic bank in Malaysia, Bank Islam Malaysia Berhad (BIMB) in 1983 (Kamarulzaman, Y., & Madun, A, 2013) BIMB was the first bank to offer Islamic transactions with paid-up capital of RM80 million and it is regulated by the Shariah Supervisory Council. In 1983 and 1992 can be considered as the monopoly of the government's decision to grant a period of 10 years to BIMB to grow without competition and create as many Islamic banking products. Currently in Malaysia now, there are 19 Islamic Banking that operating in the market. (Refer Table 1)

Table 1. List of Islamic Banking in Malaysia

No	Banks
1	Affin Islamic Bank Berhad
2	Al Rajhi Banking & Investment Corporation (Malaysia) Berhad
3	Alliance Islamic Bank Berhad
4	AmIslamic Bank Berhad
5	Asian Finance Bank Berhad
6	Bank Islam Malaysia Berhad
7	Bank Muamalat Malaysia Berhad
8	CIMB Islamic Bank Berhad
9	HSBC Amanah Malaysia Berhad
10	Hong Leong Islamic Bank Berhad
11	Kuwait Finance House (Malaysia) Berhad
12	Maybank Islamic Berhad
13	OCBC Al-Amin Bank Berhad
14	Public Islamic Bank Berhad
15	RHB Islamic Bank Berhad
16	Standard Chartered Saadiq Berhad

2. Execution Islamic Banking System in Malaysia

What is certain global financial crisis was really a significant impact The world economic landscape even sparked a debate on the phenomenon needs urged to re-assess the international financial architecture more sustainable and resilient for the benefit of the world community. In the midst of this debate, many experts The world economy, including the World Bank and the International Monetary Fund (IMF) to start focusing on Islamic banking and financial system that is seen to be more stable and powerful at a time when many conventional financial institutions struggled to continue to operate (Asyraf Wajdi Dusuki, 2010). IBS in Malaysia's history began in 1963 when the government set Tabung haji. It is a specialized financial institution that provides a fund or funds that systematic management for Muslims to perform Hajj to Mecca and encourage them to participate in the opportunities for investment and economic activity to another. In fact, due to the uniqueness of its functions, Tabung Haji is considered as the first institution in the world to carry out similar functions (Haque, Osman & Ismail, 2009). Based on the performance of the Tabung Haji that is so impressive, the government finally introduced the Islamic financial system more systematic and centralized. This process can be divided into three phases

2.1 First Phase

This phase is the introductory period (1983-1992). This is the period in which the Bank Islam Malaysia Berhad (BIMB) was established and started its Islamic banking operations in accordance with the Syariah principles. Bank Islam has been listed on the main board of the Kuala Lumpur Stock Exchange (KLSE) as at January 17, 1992. Bank Islam later became one of the leading financial institutions in the country.

2.2 Second Phase

This phase started in (1993-2003) is intended to establish a more conducive environment to encourage competition among banking companies. At the same time, it also can give enough time to the big banking company to try to get the broader stock market. Finally, awareness among the public, especially the Muslim community can be fostered on the facilities offered by IBS. At this time, the conventional banks are allowed to offer Islamic banking services by opening Islamic windows or Islamic Banking Scheme in 1993.

2.3 Third Phase

This phase began in 2004 is the continuation of a more comprehensive IBS. At present, the Central Bank of Malaysia has opened an opportunity for the Islamic banking institutions from abroad for operations in Malaysia to issue a license to the bank. Malaysia had become the first country to implement the two banking systems in which IBS operates in parallel with conventional banking system. The model introduced by Malaysia has gained recognition from other Muslim countries as a model for the future and many countries are keen to follow in his footsteps. In today Malaysia has enjoyed progress in Islamic finance and were the main and an example to the world (Mohamad Akram Laldin, & Nusaibah, 2010)

3. Issues

There are a lot of researcher that study on IBS in every direction for example brand preference in IBS (Ahmad, Rustam, & Dent, 2011; Amin, Rahim Abdul Rahman, Laison Sondoh, & Magdalene Chooi Hwa, 2011; Baba & Amin, 2009; Badr El Din A. Ibrahim, 2006; Fadzlan Sufian, 2007; Gilani, 2015; Hassan, Mohamad, & Khaled I. Bader, 2009)Already a must for an institution to gain the maximum possible, reduce costs and increase productivity in order to be able to compete with the banking institutions of the other. Regardless of the type of bank, bank employee or staff is the main agenda determine the success or failure of a bank. This was the case with an Islamic banking institution who are not immune from the need to staff completely understand every principle of Islam which offered customers to be able to

understand each product completely accurate because understanding staff. Many researchers have concluded among the main reasons is the Islamic banking institutions selected for its adherence to Shariah other than quality and good performance. In order to ensure that its performance is in good condition, an institution that should have the best staff in the form of assets in ensuring the sustainable performance. The main thing about the IBS and muamalat law that there should be a basic and fully controlled by the staff, in the sense that they are able to serve any other issues raised by customers as the customers themselves are sometimes unclear about the products offered. When banks in Malaysia changed their direction from conventional systems to the Islamic system, the staff in these banks are still the same staff. The main concern that arises is the extent of their understanding of the instruments offered. The objective of this study are follows:

- To what extent bank staff understand the instruments available under the concept of Islamic banking?

- Does the bank staff can distinguish IBS with conventional banking system?

- Does seminars and courses for the staff of the bank enough in understanding the IBS

4. Differences from the Perspective of Governance and Operations

IBS can be defined as a banking system based on the principles of the course and practice of Islamic law or in Arabic called the Sharia. This means that all operations in the bank whether the money nor the storage business funding arrangements made in accordance with the rulings of Shariah, or at least without violating the restrictions that have been imposed by Allah SWT Sign Syariah laws. The use of these principles also include transaction - a transaction such as managing bank remittances, letters of guarantee, letters of credit and foreign exchange.

The main distinguishing factor between Islamic banks and conventional banks is their proceedings should be conducted without involving any element of interest (interest on loans). This is because Islam prevents Muslims from giving or taking and usury. Moreover, key objectives is the establishment of Islamic banks to meet the needs of Muslims in the affairs of the bank. Basic operation of his business is based on the assessment of Al-Quran and As-Sunnah, which is based on the concept of fair and equitable in the interests of society as a whole. The difference between Islamic banking and conventional banking can also be viewed from the aspect of governance and operation (Refer Table 2)

Table 2. The different between IBS and Convention Banking System

Issues	Islamic Banking System	Conventional Banking System
Monitoring	Islamic banking activities will be monitored by members / Syariah Advisory Council and the Audit Committee of the Syariah. They are individuals who are responsible for ensuring compliance with Sharia law in a bank	Do not have a monitor in terms of Shariah
Shariah Compliance	Implement Shariah compliant transactions. Any gains or proceeds arising from banking transactions that do not comply with the Sharia and Sharia guidelines will be distributed to charities	There is no provision to comply with the principles of Shariah
Surplus	Gain in a manner that does not conflict with Islam. Profit (profit) was generated from contracts for the purchase and profit sharing income	Profits through a variety of ways regardless of whether or not legislation is complied with. 'Interest' resulting from a surplus

	(investments).	(increase) of total loans / loans and advances.
Relationships With Clients	The relationship between the bankers (financiers) and customers formed from a sales transaction, investment or profit-sharing compensation.	The relationship between the bank (lender) and the client (borrower) is formed of a transaction of loan / debt
Charge For Loan	The charge is based on actual costs or 1%, as outlined by BNM (compensation / ta'widh).	The fines were not based on actual costs doubled and even the fines resulted in the total increase in consumer debt (Compounding).
Zakat	Involved in the payment of zakat. It is the social responsibility of the Islamic banking.	There is no provision for zakat.
Islamic Da'wah	Involved in the movement of Islamic preaching to the public. For example, to create awareness among the public about the ban on riba, gave the sermon, forums and research on Islamic Muamalat	Not concerned about Islamic missionary activity.
Aqad	Islamic Financial system is based on contracts that have been agreed upon by the Shariah as Bai 'Bithaman Ajil (BBA), Wadi'ah, Mudarabah, Musharaka, etc.	The operation is not based cards are valid in Islamic jurisprudence and are mostly involved in the loan system based on riba.

Source: Bank Muamalat (2012)

5. The Understanding of Islamic Muamalah System and Services

Abbas et al. (2003) reveals that the knowledge and competence of staff in IBS is very important for customers. The staff is a great asset for any organization and became one of the most important factors why customers choose Islamic banking services. Islamic banking institutions must train and develop their staff development more actively to ensure that the products and services offered by Islamic banking is much better and has a unique feature compared to other banking systems. This is because, deep knowledge of Islamic banking is very important for a staff. In addition, other aspects related such as ethics, professional attitude, their duties and responsibilities to the customer and the organization, is also very important because it can improve the efficiency and thus better serve its IBS (Dusuki & Abdullah, 2008).

Adequate training for staff can also produce quality personnel in IBS and indirectly, it can attract more customers to select IBS as the preferred choice. The staff were really qualified and have skills in IBS can ensure a smoother operation and more efficient. The bank must ensure that their staff is fully trained to handle customer inquiries and further provide a detailed explanation about the facilities offered by Islamic banking. This is important because it can avoid any confusion among customers, especially in ensuring that the unique features offered by IBS is really unique and compares favorably with other banking systems

6. Methodology

Collecting data in this research is conducted using quantitative methods. The researchers used a questionnaire which was distributed to a sample that was randomly selected to assess the level of staff concerns about IBS banking institutions in Malaysia. Sekaran (2003) agreed with the use of questionnaires

as an effective tool in data collection. All data is based on the answers given by respondents include questions concerning the background of the respondents, the courses they had attended and their understanding of the principles adopted in the IBS. As noted, this research uses a questionnaire survey (survey questionnaire) to collect data. This method is a popular approach in research in the field of management (Veal, 2005). The questionnaire was developed for this research involved four main parts. Part A is a question relating to the background of the respondents. This section contains six items. Part B look understanding on the principles used in Islamic banking and in this section has 11 items. While the questions in Section C, focus on the level of understanding of the difference IBS and conventional systems in which 10 questions had been prepared while the last part of section D look on the effectiveness of the courses that have been attended by the respondents. This section also has 10 questions. The population of this research were bank staff who run the IBS. In Malaysia there are 16 banks that have run IBS. Selection is based on research samples randomly after perusing the list of staff at selected locations (Sekaran, 2003).

7. Result

The staff is a very important asset to a company. The staff must have a good grasp of every product companies will promote to customers. In this research respondents were the staff at banks that implement IBS. Thus their understanding of the concepts and systems used in IBS is very important and is the main criteria for each staff. In this part of the respondent will be given a statement and they must answer whether right or wrong. It is to look at their level of understanding in which the IBS 11 statement provided in this section. The results showed that most of the respondents gave correct answers to all the statements made. It shows their understanding being at a good level. Statements are like savings accounts and current accounts with Al-Wadiah principle, al-Ijarah principle be used by the customer for the service of an asset and al-Mudharabah is the principle used by clients in the investment opportunities. However, there are a handful of respondents still confused and give the wrong answer. This matter should be considered by the bank as a little mistake in the description given by the staff to the customer will leave a bad impact on the performance of the bank as possible investors will lose confidence in them. (Refer Appendix 1)

The findings of this research also showed that the respondents agree with the state that IBS is more efficient compared with conventional systems. This is a positive sign for the development of IBS. Respondents also believe that IBS bank staff more efficiently. The findings also showed that the respondents were aware of the existence of differences between the two systems. The difference between IBS san conventional systems is very large and the differences that exist are the strength of the IBS system. If the staff of a bank familiar with these differences of course delivering them to the customer will be more effective. IBS does not have a system of imposing penalties and interest and also this is a big difference between the two systems and practices is one of the main pillars in the implementation of the IBS. Based on the research findings, the researchers found that the level of respondents distinguished between IBS with Conventional Systems at a good level. Most of the respondents saw better able to distinguish the differences that exist between the two systems. However this does not mean the bank can be satisfied with the present situation as there are a small handful still unsure of the differences that exist between the two systems.

8. Conclusion

Overall able to conclude that the research undertaken focuses on three main parts, namely reviewing bank staff understanding of IBS, wanted to see the extent to which bank staff can distinguish IBS with conventional systems. The last focus in this research is to see whether the course has prepared before adequate in providing an understanding of the IBS.

The results showed that most of the respondents gave correct answers to all the statements made. It shows their understanding being at a good level. Statements are like savings accounts and current accounts with al-origin principle, al-Ijarah principle be used by the customer for the service of an asset and Al-Mudharabah is the principle used by clients in the investment opportunities

However, there are a handful of respondents still confused and give the wrong answer. This matter should be considered by the bank as a little mistake in the description given by the staff to the customer will leave a bad impact on the performance of the bank as possible investors will lose confidence in them.

In conclusion, it is the responsibility of the staff to understand IBS and its products in greater depth so that the element of the IBS can be explained by the staff. In addition, by understanding the products of IBS, staff may also introduce Islamic banking products to their customers, especially customers who are non-Muslim. This is because IBS products more transparent and keep the values of individual and universal justice for the people.

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Appendix 1

No	Item	Answer / number of respondent	
		Right	**Wrong**
1	Savings accounts and current accounts using the principle of al-Wadiah	117	7
2	Bank will not need to apply for permission from the Customer in the use of client funds	21	103
3	Al-Mudharabah is the principle used by clients in the investment opportunities	96	28
4	Based on the principle of al-Mudharabah, bank capital is a manufacturer and customer is the entrepreneur	119	5
5	In the event of loss of al-Mudharabah principles, customers will have to bear the whole	120	4
6	In principle al-Musharaka the bank with customers will co-finance a project financed and agreed upon	119	5
7	In this project only bank which has the final say in an action	121	3
8	In order to obtain the financing of an asset, in accordance with the principle of al-Murabahah, banks do not have to buy the asset	115	9
9	Assets financed through Bai Bithaman Ajil (BBA) require the client to pay all bank financing as soon as possible	0	124
10	Al-Ijarah principle be used by customers to obtain services from an asset	124	0
11	Bai al-Inah is borrowing money from the bank to its customers	10	114

Impact of Time to Adjust Capacity on the Performance of a Manufacturing System: A System Dynamics Approach

B. Giridhar Kamath, Sunith Hebbar and Lewlyn L.R. Rodrigues

Abstract

Fluctuating demands, advancement in technologies, and innovation in the supply chain management are posing challenges to managers in deciding the optimum levels of production and capacity building in the right time. This is an area of concern that has to be addressed effectively with a focus on the cost factors and thus gain a competitive advantage over the others. Managers over a period of time have been using expansion strategy or wait and see strategy to handle fluctuating demand scenarios. This paper uses System Dynamics methodology to study the fluctuating demand scenarios and attempts to find solutions that could help managers to meet the demand levels optimally. Simulations are conducted at various capacity levels and attempts are made to suggest solutions based on the graphs obtained. This paper aims at studying the effects of delay in capacity building decisions by managers on the manufacturing system. The results indicated that the most preferable option was to acquire the capacity by 6 months failing which, the capacity should be acquired by at least 12 months. The simulations carried out in this research can be of great help for the managers in their decision making process and help in taking fruitful strategic decisions.

Keywords: Time to adjust capacity; Manufacturing system; Stock and Flow Diagram; System Dynamics

1. Introduction

One of the greatest constant in today's market is change. The ever increasing global competition has resulted in a situation where managers have to be proactive and anticipate these changes so as to sustain in the market. The changes can be either in the areas of technology, new product development or even an unexpected increase/decrease in demand. Ever increasing competition, volatile markets, and availability of substitute products influence the demand to a great extent. Hence it is very necessary to cope up with these uncertainties, especially in demand, in an effective way so as to develop a competitive edge and grow in the market.

Realizing the importance of handling fluctuating demand wisely, several strategies have been adopted by managers with an objective of meeting demands of each and every customer optimally. One of the important tasks in achieving the above objective is the meeting the capacity requirements in a timely manner. The two strategies that are generally adopted are, expansion strategy, and wait-and-see strategy. The decision is generally based on the mangers behavioural nature and his risk taking abilities. The expansionist strategy involves huge costs because of which managers try to postpone their decisions on expansion until they are completely confident on the requirement of new capacity, and this is generally called as wait and see strategy. Here, the possibility is that by the time new capacity is acquired there could be more number of dissatisfied customers and a lost opportunity cost. Hence, to tackle these challenges managers have to develop plans that effectively help in attaining optimal results. Some of the major factors influencing the decision of expansion strategies are time, frequency of the expansion, capacity requirement, future demand expectations, funds available etc. It is evident that the decision of expansion or wait-and-see strategy is influenced by the nature of manager himself involved in the decision making process. For example an optimistic manager may immediately identify the need for capacity expansion and take decisions on the same immediately, whereas a pessimistic manager could initially adopt wait and see strategy and then

after some time may go for the expansion plan. Because of these dynamic complexities it is very much essential and practical to adopt tools and techniques that could help in decision making rationally and logically.

This paper tries to address the above issue using System Dynamics Methodology which is one of the most popular tools in dealing with dynamic complexities. This paper focuses on building a simulation model for the manufacturing system. Simulations have been carried out to study the variable time to adjust capacity and its impact on various other system parameters. By doing this it will be possible for the managers to determine the optimal time available for expansion so that the benefits could be maximized. This paper is focused on identifying the significance of meeting the capacity requirements at a faster rate on the profitability of the firm.

2. Literature Review

All Capacity planning is the process of determining the production capacity needed by an organization to meet changing demands for its products (Mahadevan, 2010). A discrepancy between the capacity of an organization and the demands of its customers results in inefficiency, either in under-utilized resources or unfulfilled customers. In the context of capacity planning, design capacity and effective capacity to play a major role in the organisation for the current fluctuating market scenario. The term "design capacity" is defined as the maximum amount of work that an organization is capable of completing in a given period, and in the case of "effective capacity", it is nothing but the maximum amount of work that an organization is capable of completing in a given period due to constraints such as quality problems, delays, material handling, etc. Blumenfeld *et al.* (1999) developed a model to analyse how such manufacturing response time affects the inventory level needed at a retailer to meet demand. Results indicate that shortening the average response time can substantially reduce the inventory that a retailer needs. Inventory reductions would result in holding costs savings for the retailer. Inventory cost savings are likely to be passed on in part to the customer in reduced prices, which can result in increased sales for the manufacturer. Customer, retailer and manufacturer can therefore benefit from any inventory reductions.

In the past, inventory was considered to be a measure of wealth and organizations kept inventory in order to reduce shortfalls. But in recent times it is considered to be only as a current asset. These inventories incur more costs than benefits. Inventory reduction emphasizes on efficiency, accuracy, assurance, responsiveness and anything that streamlines operations (Tersine and Tersine, 1990). Supply Chains are complex physical systems that behave badly when typical managerial practices are applied to them. One major concern within supply chains is the bullwhip effect. In a simple case of a manufacturer to customer, any changes in a customer order will create instability in the manufacturer's production schedules. Such changes first cause disproportionately large changes in the work-in–process, finished good inventory levels, and lead to a bullwhip effect, which is a much higher level of changes, in the desired inventory and required production levels of the upstream suppliers (Burns and Janamanchi, 2006). Orcun *et al.* (2006) studied various system dynamics models related with capacity planning in manufacturing. Their studies focused on simulations that dealt with production planning. According to Booth and Vertinsky (1993), when capacity is added well in advance without appropriate need, the firm failure risks may rise owing to the increased lead times and huge capital commitments. However, the competitive advantage of a firm lies in its ability to be alert and possess a good vision to take decisions against capacity expansion to be able to accommodate any kind of market share loss after brief higher sales.

Thus, it is very important for a firm to be proactive and try to capture the entire market without losing any customer which creates a higher value of customer satisfaction and thus growth. There are several strategies followed by the company in order to meet the capacity requirements with short term and long term focus. Also, capacity expansion should consider two viewpoints that is product perspective and process standpoint (Karabuk, 2011). Generally, expansion of capacity is a long term focused approach which requires high capital and more time. The decision on capacity expansion cannot be taken immediately when demand exceeds capacity, but it requires a proper monitoring and analysis before action. Also, another important aspect here is that if the additional capacity required is of small quantity it is not economical to rise new capacity. Thus, under these situations, firms look for outsourcing to meet the capacity requirement without losing any customer. Outsourcing is an important strategic decision which has a direct bearing on cost and quality. Most manufactures are considering this as an integral part of their business and this has become a common practice in the business due to its various advantages (Huang, 2008). Hence, SD can play

a vital role in any capacity planning decisions because of its unique characteristics of considering the interrelationship of various factors creating a holistic picture. The base model for this research is taken from Chittori *et al.* (2011) where the effect of changes in demand is studied on the capacity expansion strategies along with backlogs, production and also human resources aspects of the system. But one of the important aspects which is not considered here is the time of expansion. In the base model it is assumed that there is a continuous expansion taking place whenever a demand gap is identified which is not realistic. Thus, in the current study this limitation is being addressed by considering an important variable outsourcing and also a few other related variables are added to the base model.

3. Construction of the model

The model of a manufacturing system is constructed with an objective to analyze the impact of time to acquire capacity on the various managerial activities of a manufacturing system. Figure 1 represents subsystem diagram of the system under stochastic demand conditions. Here the system is divided into three subsystem viz. Operations, Finance and Human Resource. The key parameters under each subsystem are also enlisted in the Figure 1.
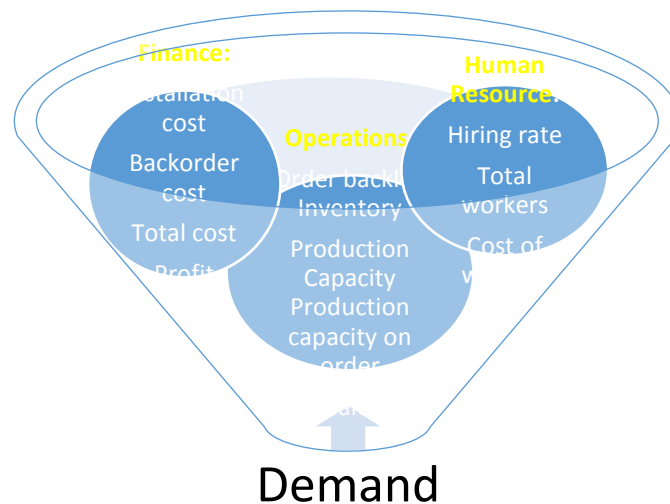
Figure 1: General structure of a production system

The stock and flow diagram shown in Figure 2 is built with the general structure of a production system in mind. The stock and flow model is developed from generic models of Sterman (2000). The model developed in this paper takes in to consideration the model developed by Chittori *et al.* (2011) in the field of capacity utilization. The stock and flow diagram can be divided into five components which are as follows. First, demand forecast and key indicators like high value of sales high value of production and total shortfall. The second component is related to capacity planning and its expansion. The third component considers production and inventory related variables, fourth component has the factors related to human resource, and lastly the fifth component considers finance related parameters like costs and profit. The detailed explanation of these components is given below.

3.1 Demand Forecast:

The demand is assumed to be stochastic and is being forecasted using a Gaussian function which is as given below in equation 1. The calculated demand becomes one of the major inputs in determining the capacity gap production rate etc. This is also used in formulating key indicators like total shortfall, which is the difference between the inventory level and expected demand. This compares with the actual sales to

measure the percentage of sales shortage. The other important indicator is the high value of sales, which is a function of current sales and past high value of sales which is as given below,

IF THEN ELSE (sales>High value of sales/month, sales-High value of sales/month, 0)

Similarly the other indicator is the high value of production when production exceeds high value of production and given as the difference between the current production to past high value of production.

3.2 Capacity Planning and its Expansion:

Here a switch function is adopted where the current demand is compared with past maximum and if the difference is greater than one the switch is on resulting the value of parameter upward to be one else it is zero. If upward is one, it indicates a need for capacity expansion. But it is not economical to expand the capacity for smaller capacity requirements. Thus, it is assumed that the capacity expansion takes place only if the demand exceeds 500 products else outsourcing will be carried out which is more commonly observed in the current market. But, the outsourcing has a minimum order quantity. Thus these factors have influence directly on the cost aspects of the system. The important function used here along with the above said conditional equation on capacity expansion and outsourcing is given below,

IF THEN ELSE (upward=1, max ((forecast production-Production capacity-Production capacity on order) *investment policy, 0), 0)

Where forecast production is a direct function of expected demand. Production capacity is the current maximum available capacity and production capacity in order is the capacity expansion taking place which is in process. Investment policy is the factor which indicates how aggressive the managers are in taking the decision of capacity expansion. Here the delay that generally occurs in making the decisions of capacity expansion due to the large investments involved in it and also by considering the amount of backlog levels is being considered. The rate of capacity expansion is calculated using the time required for capacity expansion and the capacity identified for expansion.

3.3 Production and Inventory:

The factory production rate is considered to be a function of production capacity, production order and time to adjust capacity. This in turn measures the backlog level, which is the difference between the customers' orders and factory production rate.

3.4 Human resource aspects:

The production capacity and the productivity are used to identify the hiring rate of workers into the organization. Here productivity is defined with consideration of both machine productivity and worker productivity. Hiring rate now increases the total workers and the cost of workers.

3.5 Finance Related:

Here some of the major costs like workers cost (i.e. Salary and wages), inventory holding cost, backorder costs, installation cost, outsourcing cost and production cost are considered which in turn is deducted from the total revenue to get the profit. The profit here is not the exact profit since all the cost factors are not considered, but is used to get a gauge of change in profits, which shows the significance of policies adopted during simulations.
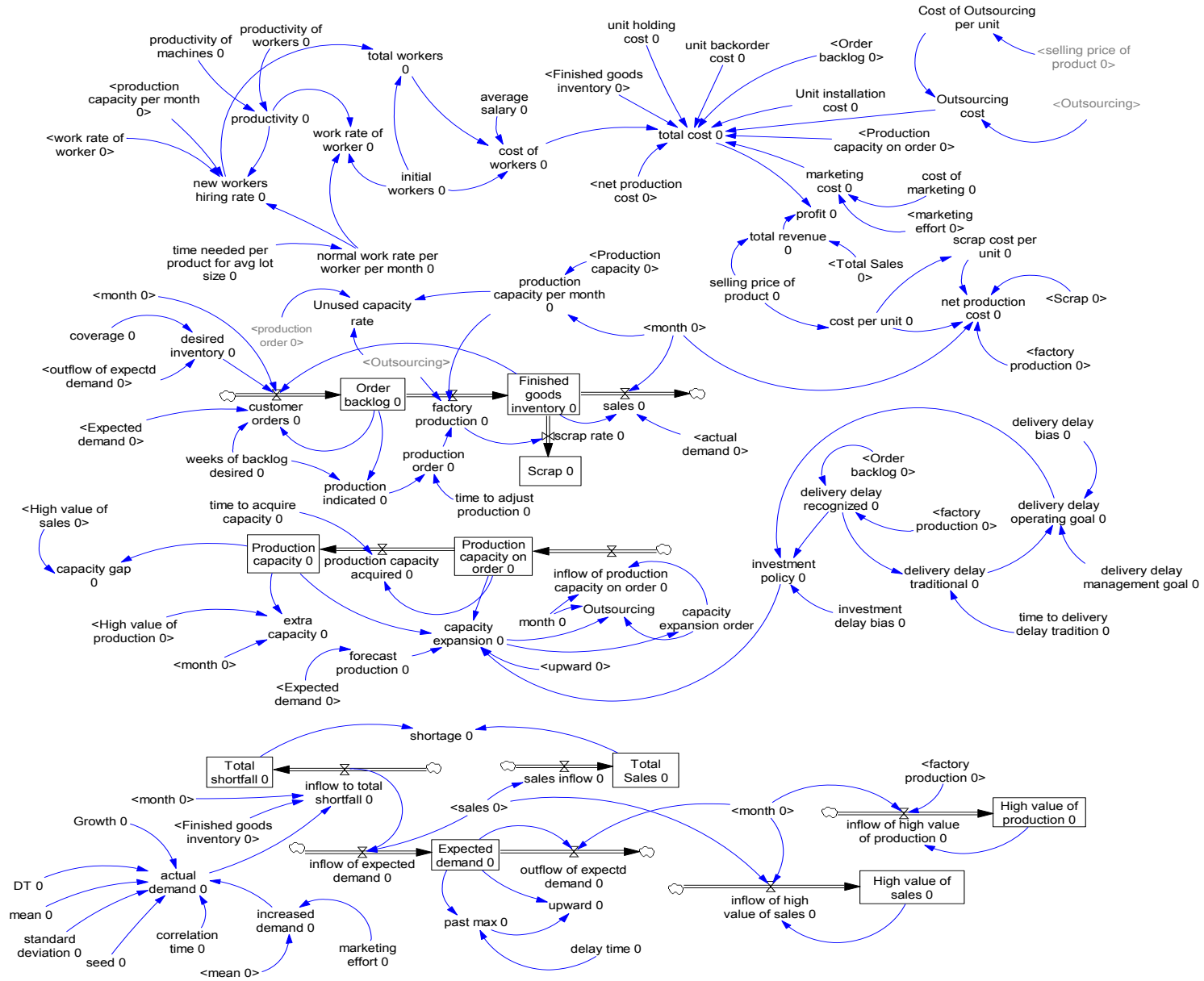
Figure 2: Stock and Flow diagram for a capacity expansion model

4. Simulation and Analysis

Capacity expansion decisions are the most important decisions and involve a lot of complexities. Generally, once the capacity for expansion is initiated and is in process, managers tend to lose their attention towards it and because of which there will be a delay in the completion of acquisition of the capacity. Another possibility is that even though the expansion plan is initiated they tend to postpone the process and try to act defensively (wait and see strategy). These actions results in huge losses for the company's profitability. Hence the simulation is carried out in order to study the impact of the acquisition time on the system performance.

In the model, one of the important assumptions in the operation of the model is that as and when there is a capacity shortfall when compared with the simulated demand, a decision to expand its capacity is initiated and is represented by the variable 'capacity on order'. This simulation tries to analyse how the time to acquire this capacity is influencing the system performance and tries to identify optimum time for acquiring the capacity.

The important condition which is considered during the simulation is that there will be no outsourcing and capacity gap initiates an expansion action. Since the purpose of the model is to analyse the impact of time to acquire capacity on various system parameters, the models are simulated for 72 months under the following four conditions, which is as shown in Table 1.

Table 1: Installation cost details

Sl. No.	Time to Acquire Capacity (in months)	Unit Installation Cost (Rs. / product)
1	6	3500
2	12	3000
3	18	2700
4	24	2500

The initial values of the other key parameters are as shown in Table 2 below.

Table 2: Initial values of parameters

Parameters	Values with Units
Productivity of machines	0.6 Dmnl
Productivity of workers	0.5 Dmnl
Initial Workers	50 workers
Average Salary	Rs. 10,000 per worker
Coverage (Inventory)	1 Month
Weeks of backlog desirable	1 Week
Time to Adjust Production	4 Months
Selling price per unit	Rs. 50/ unit
Outsourcing cost	0

The simulated graphs are depicted in Figure 3 to Figure 10. The simulation analysis has been carried out on the key parameters like capacity on order, capacity, inventory, total costs, profits, high value of sales (i.e. Maximum sales occurred during the simulated time period).

actual demand

actual demand : For 72 TAC 24	1	1	1	1	1	1
actual demand : For 72 TAC 18	2	2	2	2	2	2
actual demand : For 72 TAC 12	3	3	3	3	3	3
actual demand : For 72 TAC 6	4	4	4	4	4	4
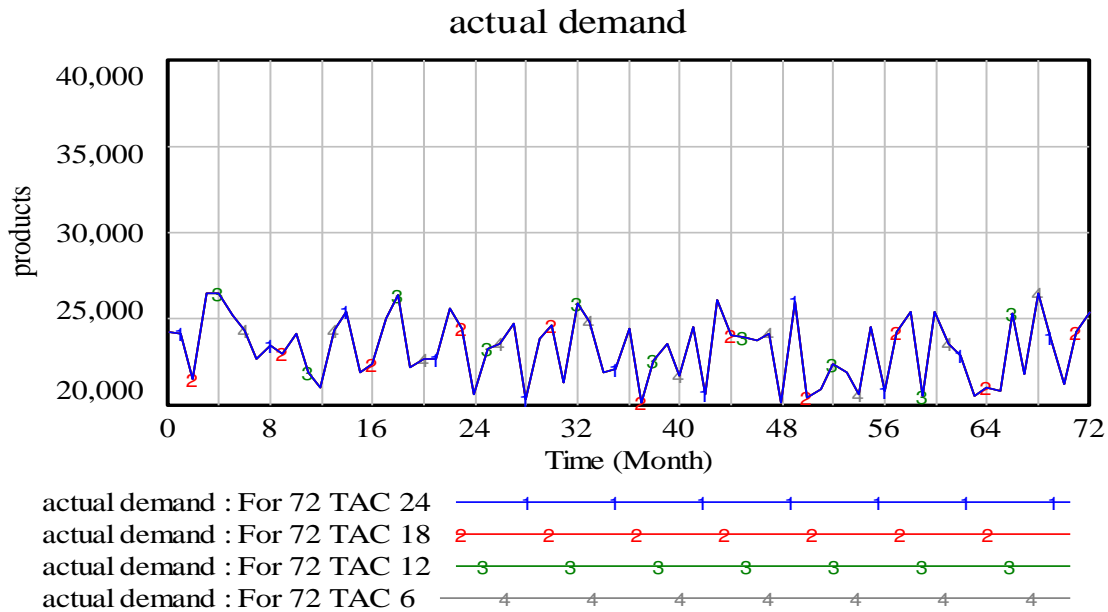
Figure 3: Demand forecast

The demand is considered to be stochastic and is fluctuating in the range of 20,000 to 28000 products per month (Figure 1).

Production capacity on order

Production capacity on order : For 72 TAC 24	1	1	1	1	1
Production capacity on order : For 72 TAC 18	2	2	2	2	
Production capacity on order : For 72 TAC 12	3	3	3	3	3
Production capacity on order : For 72 TAC 6	4	4	4	4	4
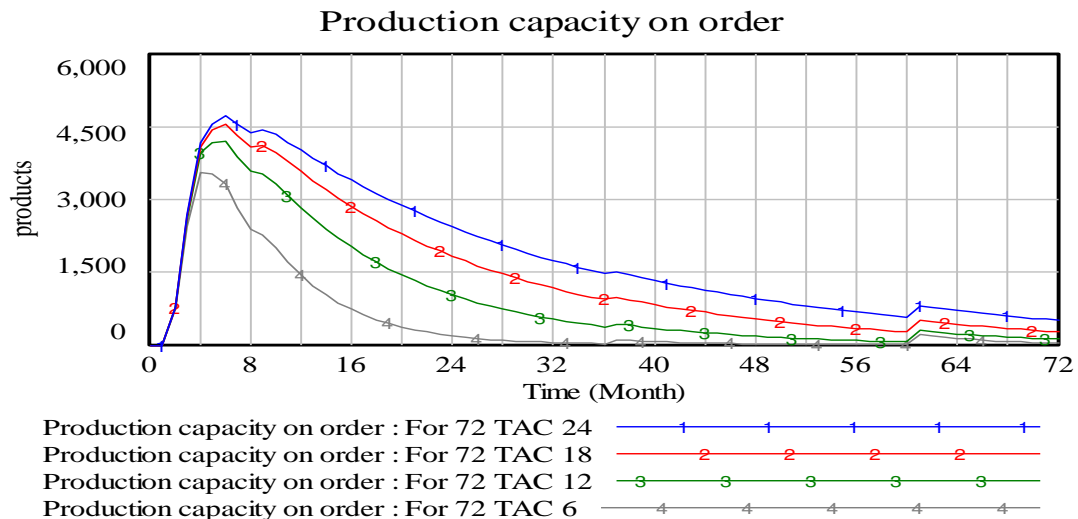
Figure 4: Influence of Time to Adjust Capacity on Production Capacity on Order
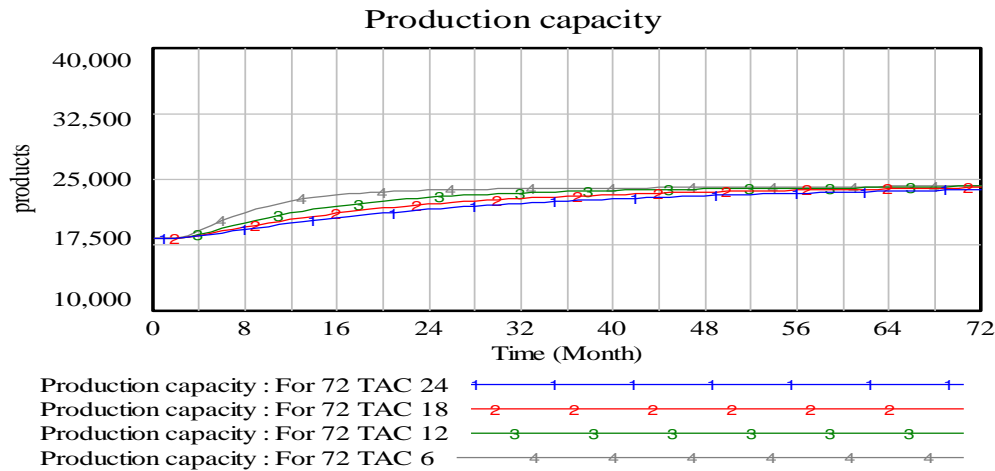
Figure 5: Influence of Time to Adjust Capacity on Capacity

From the graphs of production capacity on order (Figure 4) and production capacity (Figure 5) it can be observed that for the forecasted demand there will be shortage of available capacity during the initial period.

Hence, the production capacity on orders starts increasing in the 2nd month and the available production capacity increases from the 3rd month onwards.

For TAC 6 months, it can be observed that the capacity increases to around 23000 products by 15th month which then onwards gradually increases and reaches around 23954 products by 36th month. But it can be observed that for the other 3 simulations that is TAC of 12, 18 and 24 months the increasing rate are very close to each other but when this is compared with TAC 6 months there is a drop by 10% w.r.t. others. It can also be observed that by 36th month the capacity will be around 23000 for all the simulation.
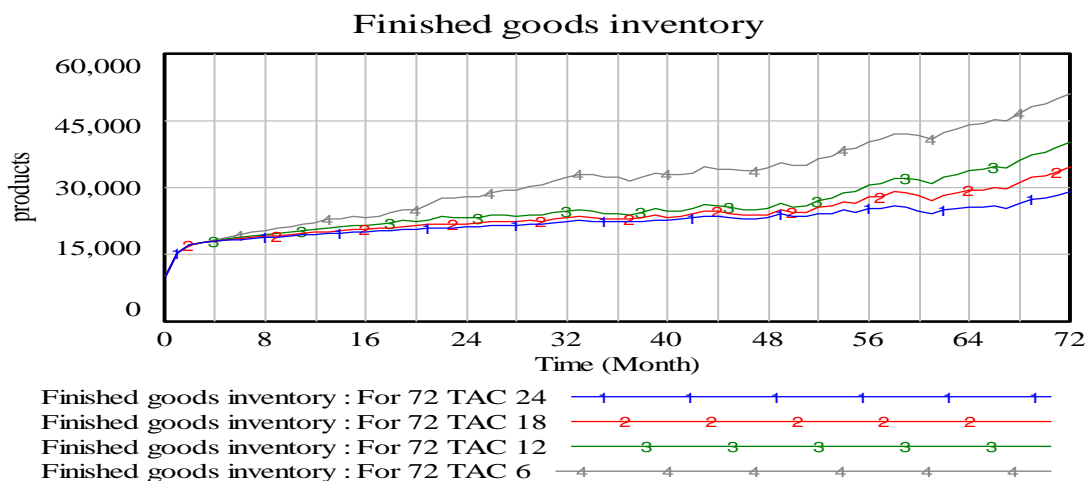
Figure 6: Influence of Time to Adjust Capacity on Inventory

It can be observed that the finished goods inventory (Figure 6) increases drastically as the TAC reduces from 24 months to 6 months. It can also be noted that during the 72nd month there is about 50% increase in the inventory value when compared with TAC of 12 months and this percentage gap is lower (of around 25%) when comparison is made between TAC of 12, 18 and 24 months.
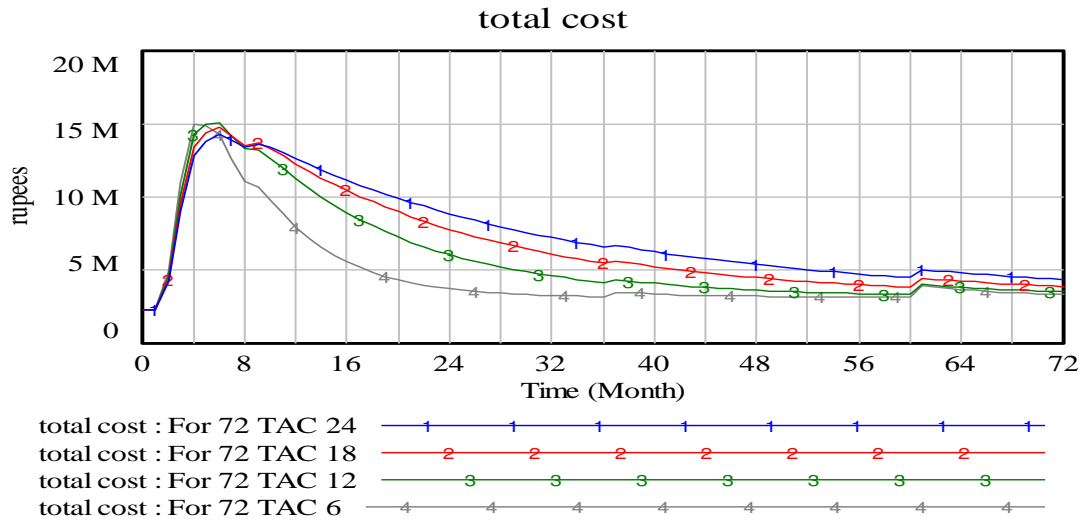
total cost

Figure 7: Influence of Time to Adjust Capacity on Total Cost
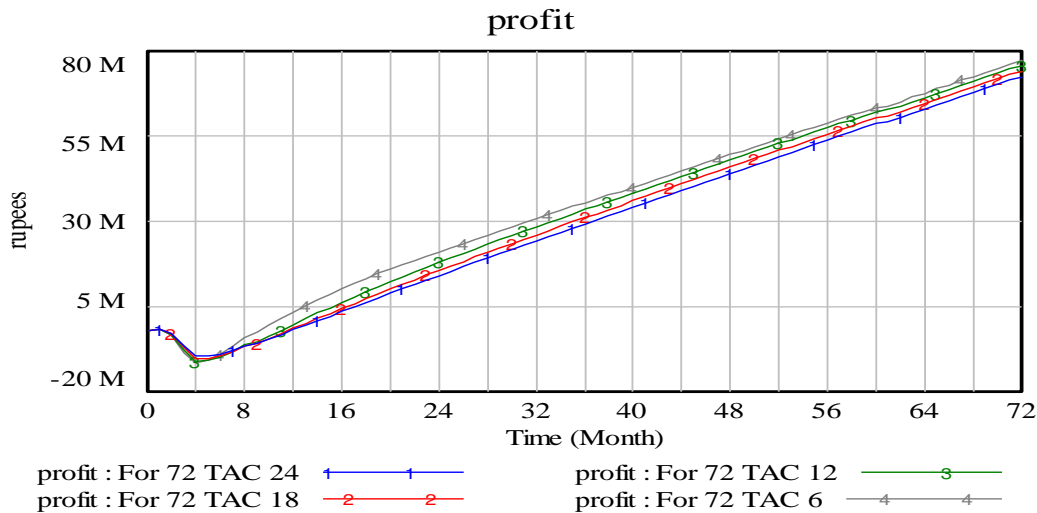
profit

Figure 8: Influence of Time to Adjust Capacity on Profit

It can be inferred from the simulation graph that even though the costs are higher initially for acquiring the capacity in a smaller duration of time, i.e. 6 months during the 4th month, it can be observed that the costs decreases drastically from other simulations then onwards (Figure 7). This is also been reflected in the simulation graph for profits where the profits drop to a minimum value for TAC of 6 months during the 4th month but then onwards it shoots up and reaches a maximum value of about 38 million during the 36th month when compared with the other simulations (Figure 8). Hence it is always recommended to acquire capacity as fast as possible to gain the maximum benefits without losing any opportunity costs.
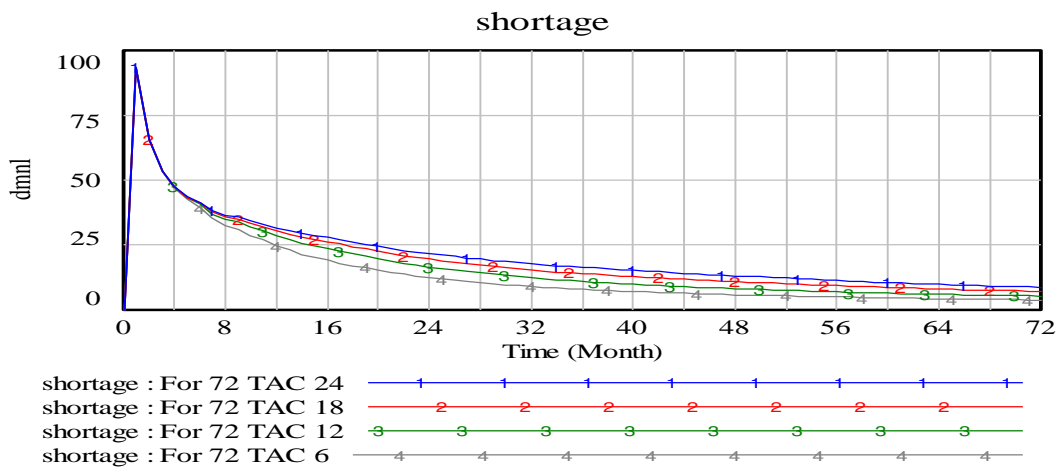
Figure 9: Influence of Time to Adjust Capacity on Shortage

This is one of the important indicators representing the shortage of products created because of the gap between the production capacity and demand. It can be observed that the shortage will be higher initially with a maximum value of around 100 products but as the capacity is acquired shortages reduces and reaches a minimum value of around 15 products during the 36th month which might even become zero value if simulated for further along the time (Figure 9).
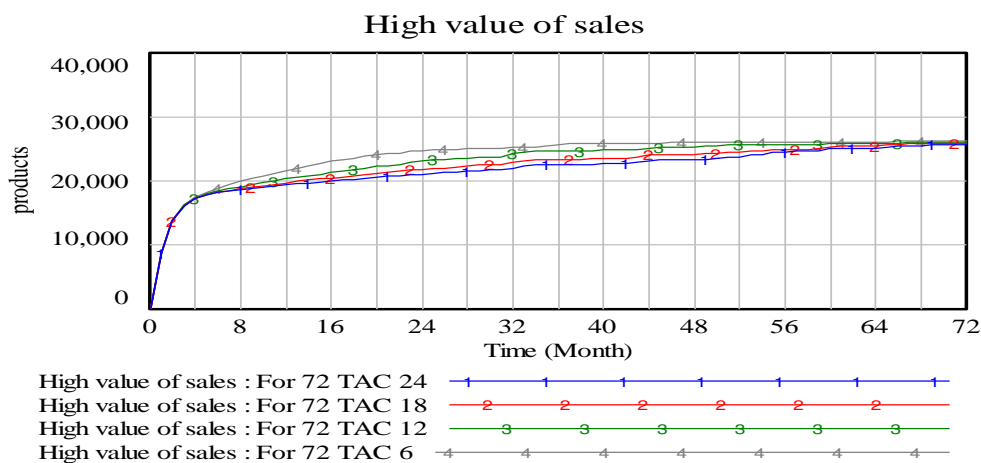
Figure 10: Influence of Time to Adjust Capacity on High Value of Sales

This is another important indicator indicating the maximum value of sales reached during the simulation for 36 months. The maximum sales occurred are about 25000 products for TAC of 6 months but this drops as the TAC increases indicating the loss of opportunity costs due to the lack of available capacity (Figure 10).

5. Conclusion and Future Scope:

From the simulation and analysis it can be concluded that it most preferable to acquire the capacity by 6 months or if this is not possible, the capacity should be acquired by at least 12 months. Otherwise it would increase the cost and decrease profit level on a greater margin compared to 6 and 12 month scenario. Hence it can be understood that the optimum time for acquiring the capacity is around 6 months to 12 months. The other important aspect which can be observed is that the maximum capacity under the current condition is about 24000 products for the next 72 months of simulation. With this information manager can plan his capacity expansion decision most effectively by deciding on the number of phases required for the

expansion of this capacity. It can be inferred that the simulation of the current system will be of great help for the managers in their decision making process and help in taking strategic decisions. It is a vital tool for the managers if implemented appropriately and will definitely help in attaining a competitive edge over the others. The simulation carried out in this paper is for time to acquire capacity. Future studies can focus on studying the impact of other key parameters that could help in identifying the best possible fundamental solution rather than settling with temporary solutions which may recur again or could result in side effects gradually worsening the situation. The current study was carried out without considering the outsourcing aspect. Future studies can carry out a comparison of this study against outsourcing strategies and focus on capacity expansion strategies which would result in a higher realization of benefits to the firm in their decision making process. A similar study can also be extended to other systems like assembly line or service system.

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CULTURAL TOURISM IN NAGA VILLAGE, WEST JAVA PROVINCE, INDONESIA
(AN ACTOR NETWORK THEORY APPROACH)

Arief Faizal Rachman and Amalia Mustika

Abstract

Cultural and environmental tourism development in Naga Village constructed by the high demand of visitors that come to Naga Village. This is a social process that contested by stakeholders, such as local community, tour operators and local government. This entire stakeholder has their own self-interest, as the elements of their stated social concept. Different values of elements between stakeholders created interest between them. The research used explorative and descriptive methodology to find out actor network theory on the physical and social transformation between stakeholders. The results of this research are local community of Naga Village open their selves on the dynamics of tourism there. Transformation happened in Naga Village, both physics and functions transformation. Nevertheless, the culture and environment of Naga Village sustain till the present time.

Keywords: actor network theory, transformation, cultural destination, sustainable tourism

INTRODUCTION

Kampung Naga is located in the area of Neglasari Village, Salawu District, Tasikmalaya Regency, West Java Province, Indonesia. It takes six hours drive from Jakarta as capital city of Indonesia. Kampung Naga is a village which is inhabited by a community in a very strong tradition of holding the remainder ancestors. The differences are visible when compared with other communities outside Kampung Naga. The community are living in the framework of an atmosphere in a traditional simplicity and environmental wisdom.

Kampung Naga is located not far from the main road that connects with the city of Garut, Tasikmalaya. Villages are located in a fertile valley, with the boundaries, in the West Village by Naga forest. The forest is sacred because it is located in the ancestral cemetery. In the south is the rice fields, and in the north and east are surrounded by river Ciwulan, which the source of water comes from Mount Cikuray in Garut. The distance from the town of Tasikmalaya to Kampung Naga is approximately 30 kilometers, while the distance from the city of Garut is 26 kilometers. To reach Kampung Naga from Garut, Tasikmalaya, people must climb down the ladder in the wall to the bank of the river Ciwulan with the slope about 45 degrees with a distance of approximately 500 meters. Then through the paths into Kampung Naga. The settlement is easier to visit than the most ancient Sundanese village in Baduy, located in Banten province, western part of Java island.

According to the data from Neglasari village, the surface soil of Kampung Naga hills with those used for land productivity can be fertile. Area of land in Kampung Naga is one of half a hectare, mostly used for housing, yards, ponds, and the rest is used for agriculture rice harvested twice a year.

The social construction of technology trying to see social processes that formed in a certain time frame. In the process, there are social groups that have an interest (self-interest), so that it can make a difference that can lead to the onset of the collision even conflict. The process of experiencing the push-pull between groups related to a series of norms, ultimately a social construction (Yuliar, 2009).

The uniqueness of the cultural life of the community of Naga Village have appeal to Naga Village grow and develop as one of the tourist attraction in Tasikmalaya Regency, West Java Province. However, the development of tourism in Naga Village result in a change of social transformation in the region. This transformation is in fact involves many social groups, namely the local communities, the tourism industry, and government.

The changes that occur in Naga Village from the first until now created due to the interaction between related groups in Naga Village. The relationship between social groups related to the Naga Village culture exists that line, but there is not. This is because of self-interest is different, so it lead to resistance

from certain parties against the policies established. This resistance can create stabilization but on the other hand can also trigger the conflict (destabilization).

Social transformation in Naga Village basically occur stably with the agreement of the parties involved. However, on the other hand, this process is also experiencing a prolonged polemic even conflict until finally a stabilization or destabilization. To find out the social transformation of the determination in Naga Village tourism policy it is necessary to a study by the actor network theory approach.

Research question

Research question of this study is how social transformation shaped sustainable cultural destination of Naga Village

Research objectives

The objectives of study to determine the social transformation that occurs when the tourism activity into an activity in Naga Village. Tourism destinations is an area is interconnected spatial, temporal and sociocultural, so it has a certain image, in which there are components of tourism and community elements interact.

LITERATURE REVIEW

Tourist destination

In a destination area, there are several components that must be held in the planning and development of tourism, consisting of a tourist attraction, accommodation facilities, restaurants, souvenir shops, tourist information centers, shops, roads, transport services. In tourism, these components are practically necessary elements of tourist destination (Spillane, 1991) is a tourist attraction, facilities, infrastructure, transportation, hospitality and security. In addition to physical artifacts that are required in the development of tourism destinations, there are components of the non-physical which also determines the development of tourism destinations in the region.

The attraction of Naga Village present a daily life of the village where mostly are Sundanese people. Upon arrival at the village, tourist will be welcomed by a local people that dedicated himself as a local guide. He took the tourist to the village where nature-based attraction, a Ciwulan river and a forbidden forest protected by local custom. Finally, after twenty minutes on foot, tourist will see a traditional staged house (Suhamihardja and Sariyun, 1992) as highlite of the tourist attraction.

The facilities of Naga Village is a traditional one when they make toilet and bathing shower into a bamboo shower and bamboo wall. They use a local house as tourist's accommodation and place to eat. Souvernir shops are provided by the locals. There is a function room that can be used as a meeting room for discussion with visitors (mostly students and researchers).

The infrastructure is a simple one. There is no electricity network, but locals use battery for black and white TV, radio and cellphone charging. There is only one stairs pathway for accessibility. But traditionally, there is a lot of water supply for daily needs and tourist. Tourist information is availbale by local people where they make a small business unit called *Sauyunan*.

There is no transportation on the site. But it is easy to get to the entrance gate of destination because located enroute of national road. There is also a parking lot provided by local tourism authority of Tasikmalaya Regency. The only pathway to the village is four hundreds stairs that connected parking lot to down to the village.

As it is a traditional village, it has good level hospitality and security. Warm greeting and locally type of service will welcome all the visitors to the village. Even the visitors are allowed to see their part of local house, such as kitchen, bedroom and family room. There is good interaction between host and guest at destination.

Elements of culture

Naga Village is a village that still holds the traditional Sundanese tradition Wiwitan and has lived in the region for hundreds of years. Naga Village society still holds the traditions of indigenous Sundanese culture in everyday life, which can be seen from the seven elements of culture (Koentjaraningrat, 1994). Seventh cultural elements that make a social construction in Naga Village.

The first element of culture is religion; believes religion is the religion of Sunda Wiwitan ancestors, but also run distance-teaching of Islam. The second is the language; the use of Sundanese as everyday language and can speak in Indonesian. Also known as the literature of ancient Sunda Sunda with writing that

is similar to writing ancient Java. The third elements of culture is a system of kinship; lineage more dominant on paternity (paternalistic) and nuclear family consisting of a father, mother and children. Meanwhile, calls to the older man is indeed considered while the female called teteh and others.

The fourth is cultural elements livelihood systems; most are agriculture-based society that is still known their confidence in the rice goddess Dewi Sri as the Sunda public confidence, it is also known in Javanese culture. The fifth element is the culture of science and technology systems; science used is usually associated with subsistence farmers, the science of astrology is associated with a good season to start farming, and is also known by the Sundanese calendar. Meanwhile, the technology is also largely used for agricultural tools and tools for cultivating paddy harvest, such as plow rice fields and rice is a traditional cutter ani-ani. So also with the concept of environmental sustainability for local communities.

The sixth is the cultural element of leadership system, known as Kuncen or traditional leaders. Leadership in Naga Village structured not join directly from the government, so there are other functions of a formal leader (Village Head) and informal leader (Kuncen).

The seventh element is distinctively art system Sundanese people like art with a bamboo musical instrument, called the angklung, rhymes, songs Sundanese (songs).

Cultural Tourism which is a type of tourism, which motivated people to travel due to the attractiveness of the art and culture of a place or region. So the object of his visit is the ancestral heritage of ancient objects. Yoshimura and Wall (2010), Burton (1995) stated that cultural expression come in both tangible and intabgible form, with associated stories and interpretations.

Actor Network Theory

Crawford (2004) describe that Actor network theory (ANT), also known as enrolment theory or the sociology of translation, emerged during the mid-1980s, primarily with the work of Bruno Latour, MichelCallon,andJohnLaw. ANTisaconceptualframe for exploring collective *sociotechnical* processes, whose spokespersons have paid particular attention to science and technologicactivity. Stemming froma Science and Technologies Studies (STS) interestintheelevatedstatusof scientificknowledge and counterto heroicaccountsorinnovationmodels, ANT suggests that the work of scienceis not fundamentally different from other social activities .ANT privileges neither natural (realism) nor cultural (social constructivism) accounts of scientific production, asserting instead that scienceisaprocessofheterogeneousengineering inwhichthesocial,technical, conceptual, andtextualarepuzzled together (orjuxtaposed) and transformed (ortranslated).

Crawford (2004) also stated that asoneofmanyanti-essentialistmovements, ANT does not differentiate between science (knowledge) and technology (artifact). Similarly, proponents do not subscribe to the division between society and nature, truth and falsehood, agency and structure, context and content, human and non- human, microlevel phenomenon and macrolevel phenomenon, or knowledge and power. Nature and society, subjectivityandstructure,and factandfictionareall effects of collectiveactivity. ANTadvancesa *relationalmateriality,* the material extension of semiotics, which presupposes that all entities achieve significance in relation to others. Science, then, is a network of heterogeneous elements real-izedwithinasetofdiversepractices.

Law (2007) assumed that nothinghasreality or form outside the enactment of those relations.Its studies explore and characterise the websandthepracticesthatcarry them. Like other material-semiotic approaches, theactor-network approachthusdescribestheenactmentof materially and discursively heterogeneousrelationsthat produceandreshuffle all kinds of actors including objects, subjects, humanbeings, machines, animals,'nature',ideas,organisations,inequalities,scaleandsizes,and geographicalarrangements.

In the study of transformation in Naga Village will collaborate between the actor network theory with the tourism sector which forms the concept of cultural tourism as a form of social construction in Naga Village. In the theory of social construction, development artifacts seen as a process that can not be predicted, according to the circumstances at the time (contingent process). According to this view, these changes can not be analyzed by following a fixed path and unidirectional (unidireksional), but refers to a number of determinants are heterogeneous. The changes are explained by reference to a number of differences which could be an obstacle even can lead to conflicts between social groups technologist. Each group has conceptual framework and the interests of each (self-interest). The social groups involved in the preparation of strategies to win the interests and goals, and forming technology in accordance with their respective plans (Yuliar, 2009).

In the following review will describe the factors forming the social construction of determination in the study area. Identification of social groups as actors or social groups that had a role in creating an artifact of social processes that occur in an area. The social group is necessary to understand how the process of technology development). On the diagram, the relationship between social groups is illustrated as follows (Yuliar, 2009) that is relevant social groups and framework conception and conception framework elements.

METHODOLOGY

The method used is descriptive research method with explorative approach to describe and explore results of field observations. Descriptive method is a procedure of identification of problems investigated by describing circumstances (subject & object) research during the study based on the facts as they appear (Bungin, 2007). This method is not limited to data collection, but also includes the analysis and interpretation of the meaning of these data, measure the dimensions of a symptom, held a symptom classification, set standards, establish relationships between symptoms were found and others. Peterson (1987) stated that qualitative research is used to adress a number of different types of objectives in the research process.

Data collection procedure

Data collection in this study consisted of primary and secondary data. In this research emphasized using snowball interview technique, a method of sampling to see a network of relationships between people/organizations. This method is also to identify a case on a network that analogy based snowball that starts with a small portion then becomes large. As for the informants are:

1. Patrick Silano, a professional tour guide, 58 years old, live in Jakarta
2. Cahyan, member of Naga Village, 48 years old, live in Naga Village
3. Local tourism authority

Data Analysis Methods

It used descriptive method to facilitate researchers in determining the unit of analysis, the type of data used, methods of data collection, analysis and desired output in this study. Results of the interviews will be discussed and analyzed as a result of research. This research was conducted on January - April 2015, held at Naga Village, Salawu, Tasikmalaya.

The analysis process begins with the identification of the social groups associated with social transformation in Naga Village. After using the snowball method in the determination of social groups are involved, then discovered several groups of stakeholders in Naga Village social groups identified as directly involved with the social transformation of the mine tour in Naga Village. In Table 1.1 can be seen in the social groups involved in the formation of the social construction of cultural tourism in Naga Village.

Table 1 Social group identification of Naga Village

Group identification of Naga Village
Tour Operator
Member of Naga Village
Local tourism authority

RESULT AND DISCUSSION

According to the data from Neglasari village, the surface soil of Kampung Naga hills with those used for land productivity can be fertile. Area of land in Kampung Naga is one of half a hectare, mostly used for housing, yards, ponds, and the rest is used for agriculture rice harvested twice a year.

Belief   Language   Occupation

Leadership   Naga Village   Science & Technology

Kinship   Art
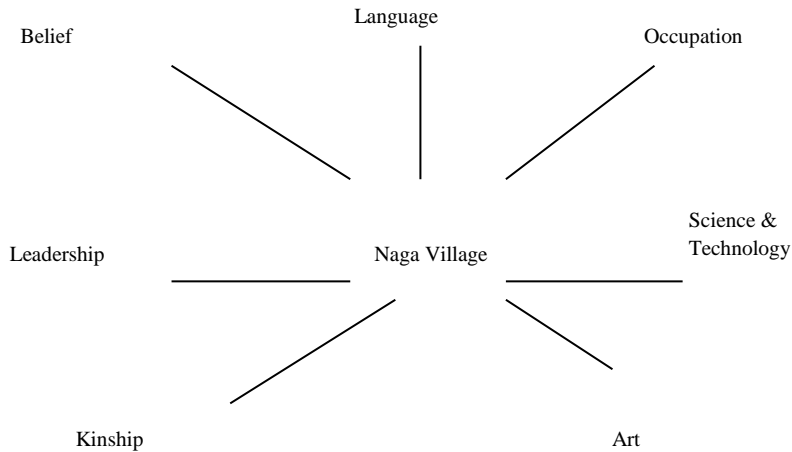
Figur 1.1 Before tourism came to Naga Village

Figure 1.1 shows the condition of Naga Village before the arrival tourism. The village is only a traditional village with agriculture life background. The term traditional become stronger because there is still practised of ancient sundanese belief in there. The seven of elements of culture designed the village into most traditional village compared another village in the area. The leader of the village informed (Mudzakir, 2015) that there is no need for Naga Village become a tourist destination and it is never stated. Just because of the hospitality of locals which willing to welcome the visitors.

At the beginning of 1970s there visitors came, both domestics and international, to Naga Village. Artifacts/physical transformation as an attractiveness of Naga Village undergo physical changes along with the development of tourism activities in the region. Promotional efforts made by the interested parties such as local governments and travel agents in an attempt to sell a tour product. Naga Village once just a Sundanese community of civilized society today has its attraction for visitors to come.

Below the figure after tourism came to Naga Village that shape a new social construction at the destination.

Leadership   Belief   Language   Occupation   Indigenous science
& technology

Kinship

Art

Attraction

Naga Village

Facilities

Locals as a guide

Infrastructure

Tourists/visitors   ----------   Tourism authority

Accessibility

Tour operators

Transportation
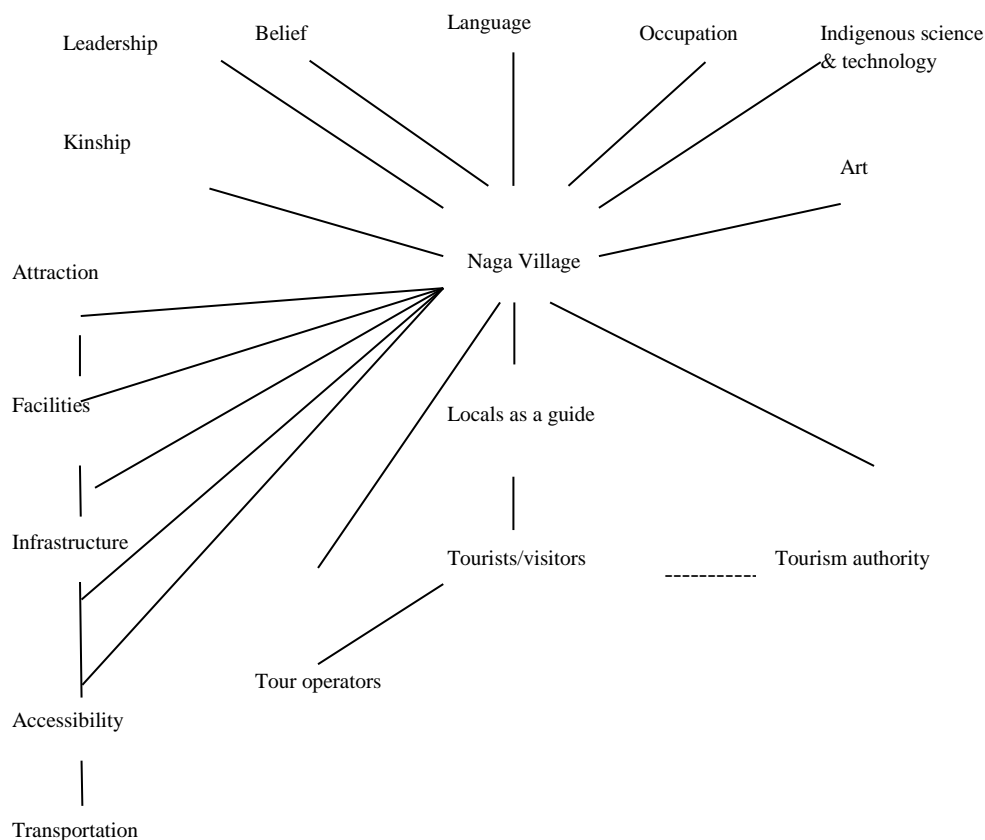
Figur 1.2 After tourism came to Naga Village, there is a transformation

The role of travel agents in bringing tourists (both foreign and domestic) to visit Naga Village have a significant impact on the positive image of the uniqueness of Naga Village. A positive image that is packaged in a tour that can be enjoyed by participants. In fact, there is the movement of people (visitors) to and from Naga Village is going on weekends or weekdays. Value increases the attractiveness of Naga Village. In the past that did the movement to and from the village of Naga are just local people only.

Interaction between the host and guest is more than just a meeting between two different cultures, but already there is a desire for the host to accommodate the needs of tourists who come. In contrast, the visitors had no hope of the added value of the purchased travel package to what is seen from a visit to Naga Village.

Interactions in this appeal is reinforced with a scenario referred to as a tourist trip itinerary (travel route). To realize the added value of the itinerary, the tour guide is also an important role in providing the interpretation of the elements of the existing culture. By relying on the authenticity of Naga Village culture that the tourism activity is referred to as cultural tourism. Tourists visiting Naga Village implications for the provision of tourism facilities in Naga Village.

Physical Transformation

This happens to support tourism activities such as the stairs to Naga Village. There are about four hundred stairs to get to Naga Village. Previously existing stairs connecting Naga Village. However, the existing stairs have not been given a touch of technology use cement materials. Physical transformation rung occurs when an existing rung repaired by providing the use of processed cement and sand. Physical transformation of rungs are used to facilitate tourists visiting Naga Village. Then the physical transformation

of the parking lot at the beginning of the Naga Village never thought to make a small parking area for vehicles and buses. Artefacts creation of parking area is intended to support the accessibility and convenience of handling the arrival of tourists who come by car. Physical transformation occurs because of the need for setting a vehicle that will be parked.

Ample parking space and made of asphalt in the construction aided by local government. Physical transformation for infrastructure mostly built by the government. Further parking area is developing into one of the local revenue for Local Tourism Authority of Tasikmalaya district which picked visitors fee through parking fees.

Physical of traditional toilet concepts in Naga Village is still a traditional form, known by the name of bamboo shower *(pancuran)*. It used water resources from local natural water sources. As the name implies, this shower has no tap water, so the flow continues to fit the availability of natural water in Naga Village.

While the toilets which are in the vicinity of this parking area is provided for visitors who come. Physical transformation in the concept of using the shower toilet that had been transformed into a semi-modern toilet by using faucets and tubs. This toilet management by communities around the parking area also use the economic approach, namely with the implementation of a paid toilet Rp. 1,000, - / person.

Facilitating the transformation of food stalls and drink is one component of the tour. Therefore, the tourists who do visit also buy food and drink available around the parking lot. Factors tropical climate and high humidity cause thirst of tourists visiting Naga Village, hence the desire to buy a drink.

Physical transformations arise when the opportunity to sell food and drinks to tourists. Physical design eat and drink stalls this simple form to take advantage of available land around the parking lot. There are also food stalls and drink whose location lies on the route of travel (by foot) to and from the village of Naga.

However, the provision of food and beverages on the existing stalls can not present the characteristic of Sundanese food overall. Physical transformation with the advent of food stalls and drink is not functioning serving typical Sundanese culture.

Souvenir or gift is an interesting artifacts to be purchased as indicating that somebody had been to the area. Moreover, if the craft artifacts or souvenirs symbolically it signifies a certain culture that looks at the shape, color, writing or other symbolic meanings typical. Souvenir itself becomes a form of physical transformation of culture in tourism results were priced in dollars to benefit sales. The existence of a souvenir shop also add physical transformation in the environment Naga Village. The design and layout of the neighborhood adorn souvenir shop, in the hope something is bought by the tourists who visit.

Tourist Information Center and Guides Association Naga Village is a building construction for the management of tourism activities by the local community. Social institutions resource guides have been around a long time. Physical transformation for this building reinforces the presence of Information and Guides Association Naga Village.

Furthermore, the handling of the visitors that come staffed by officers who have the responsibility through job description (job description), standard work tools of office (for stationery, table, chair, work schedules and computer and internet networks).

Transformation in Function

Disbudpar (tourism authority) Tasikmalaya regency occurred in Naga Village travel policy formulation, the government initiated a social group, has several sections or work units directly involved with the development of the economic sector in Naga Village.

This government work units that are directly related to tourism activities in Tasikmalaya District, particularly destinations Naga Village. As the holder of tourism regulator in Tasikmalaya District, this government work unit in charge of managing the attractiveness of tourist attractions that exist in the region.

Naga Village tourism management by local governments Tasikmalaya implications for policies related to the elements forming a tourist destination, which consists of representatives from tourist attraction, facilities, infrastructure, accessibility and hospitality of the local people.

Transformation in the travel industry tourism is a major driving factor in making Naga Village into a cultural tourist attraction famous. Without the activity of a travel route of travel (itinerary) through Tasikmalaya regency then maybe Naga Village is not well known as it is today.

Naga Village was first visited by a group of foreign tourists who managed his journey by tour operator in 1978. Subsequently after developed by Pacto Tour & Travel, Naga Village become better

known since packaged into an Java Bali overland tour, started from city of Jakarta, Bandung, Tasikmalaya pass, Ciamis and then headed towards the provinces of Central Java and East Java (Rachman, Hutagalung, Silano, 2013).

From interviews with fellow travel managers in Java and Bali, Naga Village obtained information that still has a good appeal and has its own uniqueness. In terms of financing, a visit to Naga Village is not too expensive, but tourists are very high satisfaction after visiting Naga Village.

Travelers is one component unit of this study because without tourists, a tourist destination will not successfully become a place that gives value to the economy, culture and environment. With the tourists there will be tourism production of capital and labor in Naga Village.

Domestic tourists are tourists who come from countries Indonesia itself. However, this could be domestic travelers have different cultural backgrounds to Naga Village culture. Thus there was a significant interaction between visitors who have different cultures (eg, tourists come from Sumatra) with the host. From interviews with domestic travelers obtained information that Naga Villagae has a unique interest because they live with their original culture, with houses that still traditional, no electricity and naturally. Most of the domestic tourists come from the students, student or university academics who are conducting research and mostly from urban area.

The society of Naga Village traditional agriculture is still practiced customs society characterized by Sundanese culture. As stated earlier discussion to determine the characteristic of the culture, it can be known through the seven elements of culture. For people who still adhere to customs Sunda this Wiwitan then the implication is to be a unique thing in the midst of the people who had entered the modern era.

At first, people in Naga Village is not created as a tourist attraction. There is no need for local communities to make Naga Village as a tourist destination in West Java. However, it is precisely the nature of authenticity is what ultimately becomes a pull factor of tourists, both domestic and foreign. At this process occurs friction values have a lot to make adjustments, both from the host society Naga Village, tourists and government.

Transformation at the local tourist services in question here is any form of service in the form of traveler handling when first come, enjoy a visit to leave Naga Village. Transformation function interesting is when the concept of service science owned by the local community in dealing with tourists.

Services is a concept of hospitality to consumers (tourists). In terms of hospitality, the people of Naga Village own soul hospitality and respect every guest who visited. But when the visit in the form of tourism, the concept of hospitality in Naga Village authenticity becomes more developed to support tourism activities through skill, knowledge and attitude required.

One of the travel services provided are guides Naga Village. One of skill owned by the guides is the ability to speak in providing information to a foreign English language. English skills must be obtained through a process of education and training. English is used when there are foreign tourists who come to Naga Village. Knowledge that is owned by a tour guide talking about the absolute Naga Village Naga Village culture. Knowledge of Naga Village obtained through information obtained from generation to generation from parents to their children.

Literature studies are also needed to enrich the knowledge gained earlier from tacit knowledge. Attitude (behavior) a guide in Naga Village governed by ethics guides available at Naga Village Guides Association. However, ethics guides at Naga Village is also strengthened by the spirit of maintaining and preserving the cultural and environmental Naga Village. As someone who deal directly with tourists during the visit, guides become the leader in providing information and positive image for Naga Village.

CONCLUSION

Naga Village has a unique tourist destination, which can be seen in terms of physical, historical relics and culture can still be found until now and serve as an asset for the development of cultural tourism. However, in addition to physical function, at Naga Village also has a non-physical attractiveness. This can be seen from the social and cultural life of society is growing. Preservation of Sundanese culture is very strong look at Naga Village.

Based on the analysis of social transformations in Naga Village as a tourist attraction, it can be concluded that formulate social transformation, both physical and functions in Naga Village used approach to the social construction of technology. This concept starts from a series of processes, namely identifying

the social groups associated with the enforcement policy of the tourism sector by local governments Tasikmalaya.

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Fund Flows and Asset Allocation Behavior of Mutual Fund Investors

Bhutorn Sukwanitch

Abstract

This study examines the effect of market and economic condition (e.g. the volatility of stock market, the volatility of bond yield, CDS price, Term spread) on the mutual fund flows and asset allocation behavior of Thais mutual fund investors. These conditions have the significant effect to the mutual fund flows and asset allocation behavior. The result indicates that there is a positive effect between equity funds' excess flow and volatility of the stock market. But the negative effect between fixed income funds' excess flow and the volatility of the stock market. This study concludes that Thais investors tend to invest in riskier asset when the stock market's volatility increase, but tend to allocate their funds away from equity funds when the economic condition is poor. And in the volatile condition investor tend to invest more in growth stock funds. Finally, the result also shows that LTF/RMF investor and non-LTF/RMF investor have a different behavior, the behavior of LTF/RMF investor is influenced by the seasonality effect more than market or economic condition.

Keywords: Type your keywords here, separated by semicolons ;

1. Introduction

In financial management area, how investor made a decision to buy or redeem the mutual funds and allocate the asset between asset classes, the interesting question that arise among the asset management companies and academic researcher. In the financial market, especially in the mutual fund industry, there are many asset classes that the investor can decide to invest, e.g. Stock, Bond, Mutual funds etc. However each asset class is not truly separate from each other. There are many evidences which show the effect of changing in behavior or characteristic of one asset class to another different asset class. E.g. there was a paper that studies the relationship between Fund flow in mutual fund and stock market. Warther (1995) shows that flow into equity funds is correlated with concurrent and subsequent market returns, while market returns are negatively related to the subsequent flow of the monthly data.

Moreover, Economic condition and Market volatility seem to have an effect on the mutual fund's asset allocation, e.g. John Chalmers (2013) founded an evidence that volatility in the U.S. bond market and stock market, default spread and economic crisis event have a negative impact to mutual fund flows but positive impact on redemption of equity funds. Moreover Xiao Jun (2014) who study the mutual fund flow on Chinese market founded the flow-performance relationship that , in general investors purchase funds that have high priority performance but when the stock market is highly volatile this relation seem to be weaken.

One determinant that affects the volatility of the stock market is "The behavior of the investor", the past studies show that investor behavior such as herding behavior has a direct linear impact on volatility because herding is said to be present in a market when investors decide to imitate the trading practices of those they consider to be better informed. These volatility that caused from investor behavior can be found often in the developed market, especially in the US which most of the investors are institutional investors. Institutional investor is the investor who tends to be more informed and sophisticated and it is conjectured that an individual investor tends to be less informed and are more speculative in nature. So, it was observed that institution and individual investor did have a different impact on the volatility of a market. This difference in impact lead to an interesting question whether the difference in stock market structure lead to the different result? And how it's going to affect the fund flow of mutual fund?

In Thailand, more than half of trading activity in the stock market is individual investor. The Thai SEC reports the statistic number of trading volume. The report (June 2015) shows that 57.17% of the trading volume are driven by individual investors. Moreover, Thailand is accounted as one of the volatile market in the world. (Rank as the third volatile market in ASEAN following after Indonesia and Philippines; Business insider news)

The numbers of mutual fund in the world have been growing rapidly, especially in financial market of emerging country due to its benefit to the individual investor such as portfolio diversification, asset allocation. ICI (Investment company institution) reports, that from 2000 to 2013, total assets in mutual fund worldwide has been increasing from $4 trillion in 1993 to almost $29 trillion in September 2013. And the morning star direct report, that in the first quarter of 2015 mutual fund industry in Thailand is about ฿ 3.81515 Trillion compare to the SET's market capitalization is about ฿14.1 Trillion Bath (March 2015). So the mutual fund industry is an important to Thais capital market because Mutual fund industry is about ฿ 3.815 Trillion

Sirri and Tufano (1998) have studied the determinant of flow into equity mutual fund and show that Investor crowd to high performing fund, but failing to retreat lower performing fund at the same rate. This complies with the studies by Ippolito (1992) Goetzmann and Peles (1997) Chevalier and Ellison (1997) Del Guercio (2002). All of these studies are explained by "asymmetric flow performance relationship". The factor can be the cause of asymmetric relationship is included 1) Fee and Transaction cost 2) Marketing effort of mutual fund dealer 3) Participation (Cost to attract new investors) 4) the investor clientele effect.

However, Xiao Jun (2014) argue that it's not clear that the flow - performance relationship is due to market volatility or due to the evolution of other factor and Xiao Jun (2014) show that Flow-Performance relationship varies under different market condition which he use Chinese mutual funds sample and Chinese market. Del Guercio and Tkac (2002) show that they constituted a substantial divergence in the pattern of the flow-performance relationship between two investor groups' retail mutual funds and fiduciary pension funds in the US. Moreover, Economic condition and Market volatility seem to have an effect on the mutual fund's asset allocation, then Edwards and Zhang (1998) argue that the magnitude of fund flows into stock and bond funds are affected significantly by stock and bond returns.Santini and Aber (1998) reports the stock market performance and personal disposable income were positively related to new money flows into mutual funds. This study also uses Thailand consumer confidence index as a control variable.

And from the Keynesian macroeconomic theory, John Hicks (1937) have developed the IS-LM model which explains the relationship between interest rate and the output of the economy, such as the investment-saving and liquidity preference-money supply, from the IS-LM model, interest rates are determinant of the investment decision and also to the economic condition of financial markets. The term spread (the difference between the yields on long-term and short-term government bond), it reflects an expectation to future short-term interest rates. Fama&French (1989) show that Term spread is wide when economic condition is good and narrow when economic condition is expected to be bad which later become a standard practice among economists when forecasting output growth, recessions and predicting economic condition. Another factor that can represent the economic condition is the default spread (the difference between the yields on corporate bonds and Government bond) reflects the additional yield an investor can earn from a security with more credit risk. Then the default spread is wide when the investor afraid of default risk which imply to down-economic conditions, is narrow down when the investor have a confidence to economic-condition. Which I use CDS Price of Thai-government 5-year bond (THAI CDS USD SR 5Y D14) to represent the default spread

According to the asset allocation and investment decision theories, the allocation of assets across different asset classes will depend on how risk averse an investor is, with less risk averse investors generally allocating a greater proportion of their portfolios to riskier assets. ICI (Investment company institute) reports that most mutual fund investors are still avoiding high-risk investments (high degree of risk aversion) in their mutual fund portfolios. Moreover, ICI released the figures in its annual mutual fund study, which it shows that investor which high risk aversion is the cause of strong fund flow to bond fund and weak fund flow to equity fund. And another theory that studies the behavior of investor toward the risky event is "prospect theory" The theory states that people make decisions based on the potential value of losses and gains rather than the final outcome. Marc Oliver Rieger (2011) applies the prospect theory and examine the degree of risk preference around the world and found that Thai investor have a higher loss

aversion when compared with other countries. (Thailand's degree of loss aversion is 0.722 while US is 0.69). This statistic is also an another reason, why Thailand is the interesting area to study further

Mark J. Kamstra (2013) has been shown the seasonal flow pattern for US. Mutual funds investors seasonal pattern in mutual fund flows that is consistent with individual investors becoming more risk averse in the fall, as the days shorten, and less risk averse in the winter/spring, as the days lengthen. And to Thais investor, I think the nearly end of the year, which investors must buy a large amount of the mutual funds unit in order to catch the tax-deductible benefit. So it would be the factor that makes investor's behavior change.

Finally, Our contribution to this study is following theses, first the prior research about the impact of market, economic condition to the mutual fund flows are not considered on the seasonality pattern of fund flow in Thailand because the largest group of investors is the tax-benefit investor who invest their money into LTF/RMF funds. This characteristic of LTF/RMF investors is different from the normal investors. E.g. they are less return-chasing and rational behavior. So this study has added the time-fixed effect (month dummy variables) to investigate the seasonality flow. Second the previous research has used the realized volatility, e.g. Standard deviation, sum square as the proxy for market volatility, but this study employ the stochastic volatility which has been recognized as an accurate volatility model. Third the previous study only focus on the asset allocation between asset classes of mutual funds, but this study extends more on the different investment style of equity funds

2. Methodology

2.1 Sample

Thailand Mutual fund data obtained from "Morning star Direct Database" which provide much information, e.g. Net asset value (NAV) in daily, weekly and monthly, type of funds, past return, etc. From all available information between 1975 to 2014, There are 1405 Funds that can be classified as "Open-ended Fund" and "Close-ended Fund" or by asset class as "Equity" (533 Funds) "Fixed Income" (687 Funds) and "Balanced Fund" (117 Funds).

Table1. Summary of mutual funds sample

Number of mutual funds by Board category (till April 2015)	
Equity	399
Fixed income	162
Commodities	47
Allocation	115
Miscellaneous	643
Property, Infrastructure, REITs	16
Total	**1382**

2.2 Identify the Excess flow and flow of mutual funds.

To examine which asset classes of mutual fund investor allocate their money in response to the economic and market condition. For each funds I have to identify net flow (NF) by using monthly change in asset (A) which resulting from net flow and adjust by the monthly return

$$NF_{i,t} = A_{i,t} - A_{i,t-1} - A_{i,t-1}R_{i,t}$$

Where subscript i is denoted as the mutual fund i, $A_{i,t}$ is the total asset of fund i at time t and $R_{i,t}$ is the return of fund i at time t. Next I aggregate the net flow of each fund by 3 asset classes (e.g. equity, fixed income, allocation). Then, to identify the excess flow I apply the methods proposed by Frazzini and Lamot (2008) which use net-asset-weighted flow (AWF) as a flow benchmark.

$$AWF_{j,t} = \frac{A_{j,t-1}}{\sum_{j=1}^{3} A_{j,t-1}} \sum_{j=1}^{j} NF_{j,t}$$

Where subscript j is denoted as the asset classes and it is the month and asset-weighted flow (AWF) for asset class j in month t is the new flow that would go to class j if the investor allocated in proportion to the relative net assets of class j in month t-1. Then, the excess flow for category j $EF_{j,t}$ is constructed as an actual flow for category j less asset-weighted flow

$$EF_{j,t} = \frac{NF_{j,t} - AWF_{j,t}}{A_{j,t-1}}$$

And for the flow of each fund, then calculate the percentage of net flow, which is the net flow scaled by the fund's total assets

$$Flow_{i,t} = A_{i,t} - A_{i,t-1}(1 + R_{i,t-1})$$

$$Flow\%_{i,t} = Flow_{i,t}/TNA_{t-1}$$

2.3 Identify Stochastic Volatility of the stock market (GARCH 1-1)

This paper defines the stock market volatility by a stochastic process, to study the effect of volatility of the stock market to the decision of mutual fund investor, this paper, assuming that the volatility of the stock market return is a stochastic process rather than a constant.

$$\sigma_t^2 = k + G\sigma_{t-1}^2 + A\varepsilon_{t-1}^2$$

The Generalized Autoregressive Conditional Heteroscedasticity (GARCH) model is the popular model for estimating stochastic volatility. It assumes that the randomness of the variance process varies with the variance, as opposed to the square root of the variance as in the Heston model. The standard GARCH (1, 1) has

employed in this paper

GARCH (1,1) estimated volatility
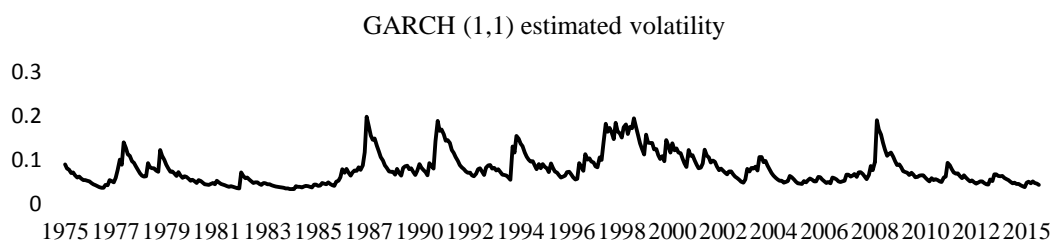
Fig. 1. The volatility of SET Index return during 1975 – 2015 by GARCH Model

2.4Asset allocation between asset classes

To measure the effect of market and economic condition on the asset allocation between different asset classes, e.g. Equity, Fixed income and allocation funds, this study applies the methodology from John Chalmers (2013) by constructing the regression model as follows

$$EF_{j,t} = \alpha + \beta_1(GARCH) + \beta_2(TERM) + \beta_3(BV) + \beta_4(CDS) + \beta_5(RSI)$$

2.5 Asset allocation between differing fund investment categories

Overall, the result from the previous will shows how economic and market condition effect to theallocation behavior between asset classes. However, it cannot show the asset allocation behavior among the different investment style of each fund Hence, This study have developed another panel data regression Modelto investigate the different allocation behavior among the different investment styles of fund which is

$$Flow_{i,t} = \alpha + \beta_1(GARCH) + \beta_2(TERM) + \beta_3(BV) + \beta_4(CDS) + \beta_5(RSI) + \beta_6(\ln TA) + \beta_7(\ln AGE) + \beta_7(RANK) + \beta_i(Monthlydummyvariable)$$

2.6Categories of investment style

Mutual funds can be broadly categorized into two categories which are Equity and Fixed income fund However, This study also creates other sub categories based on its investment style. Separating mutual funds into different sub - categories by using these criteria First, Fund size with can be separate funds into three different subgroups, which are large, medium, small fund. Second, Investment Style that referred to how value-growth orientation of the stock holdings growth, which also can be separate funds into three different subgroups namely growth, blend and value fund. The definition of each criteria can be found in Table 1below

Table2. Summary criteria of investment style category

Criteria	Definition
Large	These funds seek capital appreciation by investing in Large-cap stocks that are accounted for the top 70% of the capitalization
Medium	These funds seek capital appreciation by investing in Medium-cap stocks which represent the next 20% of the capitalization
Small	These funds seek capital appreciation by investing in small-cap stocks.
Growth	The Growth style is defined based on high price/book and price/cash-flow ratios, relative to the MSCI EAFE Index.
Value	The Value style is defined based on low price/book and price/cash-flow ratios, relative to the MSCI EAFE Index.
Blend	The blend style is assigned to funds where neither growth nor value characteristics predominate

3. Results and Discussions

3.1 Asset allocation between asset classes

The first question is whether market condition and economic condition affect asset allocation behavior. Table 3.presents the result from the regression of excess flow between mutual fund asset classes on the market condition, economic condition and other control variables. I employ the Newey-West t-statistics to overcome the concern of autocorrelation and heteroscedasticity in the error term of time-series regression

The table 3 shows that the excess flow of equity is positively and significantly related to stock market's GARCH volatility (Newey-west's p-value of 0.043). While fixed income class is negative but not significant (Newey-west's p- value of 0.189). I run regression for the Term spread which represent to economic condition the table 3 show that the excess flow for equity and mixed class are negatively and significantly (Newey-west's p-value of 0.054 and 0.003) but positively for fixed income class (Newey-west's p-value of 0.029). And another economic variable CDS Price (THAI CDS USD SR 5Y D14), it is the credit derivatives contract which represents the credit quality of Thailand. CDS price is significant for all types of asset classes. Negative relationfor equity and mixed fund, positive relation to fixed income fund.

This study has shown the strong evidence that Thais investor different from the investor in developed markets. When the stock market is highly volatile there has the positive excess flow to the equity asset class.Which shows that Thais investors they do not allocate their funds to less risky assets during the high volatile market condition. The Term spread, which is the proxy variable to the track economic condition, it widens when economies are troughs and expected the economy to improve, it narrows when the economists are near the peaksand expected to worsen. As a result, the regression of equity implies that the fund flows to equity fund is high when the economic cycle are near the peaks and expected to worsen in the future. And opposite to the fixed income fund

For the market condition of fixed income, when the bond market is highly volatile there has the excess flow out of the fixed income fund (negative coefficient to bond volatility). It suggests that when investors face with the high volatility, investors treat fixed income fund in the different way of equity funds.

The CDS Price, it negatively to equity and mixed fund, suggests that when the investors' default aversion is high will lead to lower fund flow to equity and mixed fund. But in contrast to fixed income fund has a positive excess flow when the investors' default aversion is high, the result suggests that when the CDS Price (spread) is high, Thais investor allocate their funds from equity to fixed income because fixed income has a less risk compare to equity funds. Moreover CDS is can be explain the investor's aspect to macro-economic and market's technical factor.

Another interesting point is that, I have added months fixed effect in the regression model to absorb the effect of monthly flow and found that the "December" dummy variable is positive and significant. Which suggests that, December is the month with the highest excess flow to the equity and mixed funds, but fixed income has an outflow of funds. This attribute to a tax-benefit funds (RMF and LTF) offered by Thais government. In Thailand this kind of mutual fund has become more favorable and capture a large fund inflows when compared to ordinary mutual funds. To get the tax deduction benefit investors must buy a large amount of mutual fund within particular year this lead to higher flow in December. Moreover, it's consistent with a previous study which found that in us. Investors make asset allocation decisions more actively around the end of year.

Table 3. Excess flow of asset classes and market-economic conditions.

Panel A : Market And Economic Condition Variables (t-stat)			
	Equity	Fixed Income	Mix
GARCH	**0.183***	-0.417	0.195
	(1.880)	(-1.260)	(1.040)
BV	0.011	-0.133	0.066
	(0.430)	(-1.540)	(1.400)
TERM	**-0.004***	**0.018****	**-0.007***
	(-1.890)	**(2.310)**	**(-1.950)**
CDS	**-0.010****	**0.029****	-0.011
	(-2.410)	**(2.380)**	(-1.530)
RSI	-0.011	0.036	0.017
	(-1.270)	(1.080)	(0.710)
Panel B : Monthly Dummy Variables (t-stat)			
February	0.005	0.005	-0.010
	1.360	0.340	-1.340
March	0.006	-0.006	-0.005
	0.950	-0.380	-0.270

Table 3. Excess flow of asset classes and market-economic conditions. (Continuous)

	Equity	Fixed Income	Mix
Panel B : Monthly Dummy Variables (p-value)			
April	0.000	0.013	-0.006
	-0.010	0.910	-0.460
May	0.003	-0.004	-0.005
	0.510	-0.240	-0.400
June	0.004	-0.016	-0.012
	0.900	-0.930	-0.920
July	-0.001	0.013	-0.007
	-0.300	0.800	-0.720
August	0.005	-0.002	-0.005
	1.360	-0.200	-0.440

September	0.005	-0.013	-0.009
	1.460	-0.790	-0.890
October	0.001	-0.004	0.010
	0.390	-0.300	0.870
November	0.002	0.019	0.003
	0.420	0.910	0.260
December	**0.008***	-0.024	0.011
	1.850	-1.360	1.400
N	155	155	155

3.2 Asset allocation among different investment style of funds

I divide the equity fund into sub-category based on its investment style of its underlying asset which reflect to risk levels. (E.g. growth and small is more risk and the opportunity of a greater return), in order to investigate the allocation behavior of investors on different styles of funds.

The table 4 shows that the large-blend stock have a negative relation to the stock market's GARCH volatility, which contrast to large-growth stock (positive relation), small stock also have a positive relation and to mid-blend it also has a negative relation although it's not statistically significant but nearly to significant. The Term spread for almost all of category the flows are high when the economic cycle are near peaks and expected to worsen in the future it consistent with the previous model. The CDS Price shows how financial markets perceive the risk of default on debt and it has a negative relation to the large-growth and small flow which suggest that when the investor's aspect to economic condition is poor, the fund is flow into less risky category of mutual fund, This study has shown the evidence that investor has a different behavior on different category of funds. When the volatility of the stock market is high, there has a positive flow into growth and small stock funds. The growth and the small stock is mean of risky asset, which imply that Thais investors allocate their funds intorisky asset when the volatility of the stock market is high. This is consistent with previous model. And the interesting point is the result still show a positive sign in a December monthly variable which I have more tests to study the effect of seasonal flow according to tax-benefit funds (LTF/RMF)

Table 4. Mutual fund flows with different investment style

	Large blend %Flow	Large growth %Flow	Large value %Flow	Mid blend %Flow	Mid growth %Flow	Mid value %Flow	Small %Flow
Panel A :Market And Economic Condition Variables (p-value)							
GARCH (t-1)	**-0.304****	**0.088****	-0.179	**-0.684****	-0.206	0.047	5.361
	-2.520	**1.990**	-0.800	**-2.600**	-0.820	0.140	0.790
Ln (TA)	**-0.042*****	**-0.025*****	**-0.023*****	**-0.018*****	**-0.019*****	**-0.034*****	**-1.220*****
	-16.840	**-23.240**	**-4.810**	**-3.460**	**-4.400**	**-4.890**	**-7.230**

Ln (AGE)	**-0.016*****	**-0.008*****	**-0.010****	**-0.017****	0.008	**-0.025*****	0.015
	-5.550	-6.430	-2.670	-3.140	1.240	**-3.710**	0.180
RANK	0.001	**0.002*****	0.000	-0.002	-0.003	**-0.007*****	0.052**
	1.010	**3.740**	-0.150	-0.890	-1.300	**-3.360**	2.880
BV	-0.010	**-0.051*****	-0.066	-0.119	0.014	-0.122	-0.198
	-0.240	-3.350	-0.920	-1.350	0.160	-1.100	-0.110
TERM	0.000	0.000	-0.003	-0.006	0.008	**-0.014***	-0.110
	-0.030	-0.500	-0.580	-1.090	1.410	**-1.950**	-0.740
CDS	**0.010***	**-0.010*****	0.000	0.022*	0.003	-0.007	-0.172
	1.740	**-4.750**	0.000	1.870	0.260	-0.470	-0.570
RSI (t-1)	-0.001	**0.020*****	0.002	**0.083****	**0.075****	**0.075****	**1.147****
	-0.060	3.570	0.060	**2.580**	**2.410**	**2.040**	**2.240**

Panel B : Monthly Dummy Variables (p-value)

February	0.004	0.003	0.000	-0.005	-0.005	-0.001	-0.014
	0.650	0.390	0.000	-0.350	-0.250	-0.060	-0.710
March	0.008	0.000	-0.001	-0.009	-0.019	-0.001	0.017
	1.140	-0.040	-0.380	-0.640	-0.990	-0.050	0.840
April	0.012*	0.004	0.004	-0.009	-0.005	-0.006	0.027
	1.820	0.430	1.100	-0.660	-0.250	-0.340	1.350
May	0.003	0.013	0.004	-0.014	-0.021	-0.012	-0.002
	0.430	1.450	1.230	-1.020	-1.110	-0.640	-0.110
June	-0.001	0.009	-0.002	-0.009	-0.006	0.005	**0.044****
	-0.110	1.010	-0.520	-0.640	-0.340	0.270	**2.180**
July	**0.012***	**0.016***	0.001	-0.007	0.015	-0.006	0.028
	1.840	**1.900**	0.380	-0.510	0.800	-0.320	1.390
August	**0.012***	**0.023****	**0.008****	-0.016	0.005	0.005	0.039*
	1.810	**2.620**	**2.360**	-1.180	0.260	0.270	1.940

Table 4. Mutual fund flows with different investment style. (Continuous)

	Large blend	Large growth	Large value	Mid blend	Mid growth	Mid value	Small
	%Flow	%Flow	%Flow	%Flow	%Flow	%Flow	%Flow
Panel B : Monthly Dummy Variables (p-value)							
September	**0.013***	0.014	**0.012***	-0.012	0.002	0.006	0.032
	1.860	1.610	**3.700**	-0.880	0.120	0.360	1.630
October	**0.017***	**0.016***	**0.020***	-0.012	-0.013	0.006	0.025
	2.450	**1.870**	**5.980**	-0.870	-0.700	0.320	1.280
November	**0.044***	**0.061***	**0.048***	0.007	0.024	**0.057***	0.016
	6.640	**7.090**	14.560	0.550	1.350	**3.230**	0.830
December	**0.016***	**0.019***	0.004	0.019	**0.032***	-0.003	0.018
	2.440	**2.270**	1.140	1.400	**1.770**	-0.180	0.940
N	14345	19517	2149	1471	694	562	113

From the table 4 to do more tests, I have specifically selected the mutual funds which have a tax-benefit scheme e.g. LTF (Long-Term Equity Funds) and RMF (Retirement Mutual Funds). But due to the limit of data the category of our sample is only 4 category e.g. (large-blend, large-growth, large-value, mid)

Not surprisingthe Table 5 shows the result of LTF/RMF mutual funds, for almost all category, I founded the positive seasonal pattern of flow for the month which nearly the end of the year (October to December). And the GARCH Volatility is only significant for one category. Likewise to the Term spread, Bond volatility, CDS Price it's not significance for all. It contrast to the previous table which include all type of mutual funds but when I separate out the tax-benefit funds it's not significant which show that tax-benefit investors they do not allocate their fund because of market or economic condition, but they buying the funds on the end of the year in order to caught up the tax-deductible benefit. And there has an evidence of seasonal flows pattern on the end of the years. All, large-blend and large-growth have a positive flow on September to December while mid have a positive flow on November and December and large-value have a positive flows on November. the economic and market condition does not significant in tax-benefit funds but significant incongregate samples of non-tax-benefit and tax-benefit funds hence, I have more test in the next table to investigate whether the result is still the same if I exclude tax-benefit funds from whole samples.

Table 6 shown the result of non-LTF/RMF Fund, for the large-growth, small funds there are a positive correlation to the GARCH's volatility, but for the large-blend, large-value the relationship is negative. Which suggested that the non-LTF/RMF investors are contrast to LTF/RMF investors because they allocate their funds to risky asset when the market volatility is highEven though I have separate the LTF/RMF and non LTF/RMF funds to investigate on the seasonal allocation, surprising we still see the significant of monthly variable on the few month and the degree of significant is extremely less than LTF/RMF funds. For the September positive only large-growth, for the October positive on large-growth and small, for the November positive on large-blend and large-growth. And none of category is significant on December. The different is that LTF/RMF investors they buying the mutual funds on the nearly end of the year. But the non LTF/RMF investors they doesn't buy in the nearly end of the year.

Table 5. Mutual fund flows with different investment style (LTF/RMF Funds)

LTF RMF

	All	Large Blend	Large Growth	Large Value	Mid
Panel A : Market And Economic Condition Variables (p-value)					
GARCH	-0.1583	**0.3573****	-0.0686	1.7310	-0.5093
	-1.2000	2.0000	-0.8900	1.2300	-1.8000
Ln(TA)	**-0.0349*****	**-0.0278*****	**-0.0302*****	-0.0226	-0.0041
	-13.0000	-7.2300	-14.8900	-1.1200	-0.8400
Ln(AGE)	-0.0055	**-0.0160*****	**-0.0060****	0.0294	**-0.0233****
	-1.6000	-3.5200	-2.6200	0.9300	-3.0600
RANK	0.0023*	0.0025	0.0033***	-0.0200**	-0.0026
	1.7600	1.5500	4.4400	-2.2200	-0.9800
BV	0.0315	-0.0910	-0.0732	-0.2071	0.0345
	0.7100	-1.5600	-2.8300	-0.4700	0.3600
TERM	-0.0016	-0.0052	0.0011	**-0.0684****	0.0066
	-0.5700	-1.3300	0.6500	-2.0600	1.0400
CDS	0.0018	-0.0094	-0.0007	-0.0768	-0.0037
	0.2800	-1.0700	-0.2000	-1.0200	-0.2700
RSI	**0.0411****	0.0077	**0.0455*****	-0.0439	-0.0397
	2.3700	0.3300	**4.5000**	-0.2500	-1.0600
Panel B : Monthly Dummy Variables (p-value)					
February	0.0054	0.0080	0.0053	-0.0173	-0.0053
	0.5400	0.6100	0.9000	-0.1800	-0.2500
March	0.0007	0.0054	0.0004	-0.0120	0.0168
	0.0700	0.4100	0.0600	-0.1300	0.7800
April	0.0059	0.0154	**0.0122****	-0.0124	0.0092
	0.5900	1.1600	**2.0800**	-0.1300	0.4300
May	0.0135	0.0284	0.0047	0.0198	0.0130
	1.3500	2.1600	0.8000	0.2100	0.6000
June	0.0110	0.0200	**0.0101***	-0.0111	-0.0009

	1.0900	1.5100	**1.7200**	-0.1200	-0.0400
July	0.0055	0.0193	**0.0096***	0.0146	-0.0063
	0.5500	1.4800	**1.6500**	0.1600	-0.2900
August	**0.0283****	0.0191	**0.0134***	-0.0176	-0.0063
	2.8400	1.4700	**2.3100**	-0.1900	-0.3000
September	0.0164	**0.0336****	**0.0230****	-0.0022	-0.0018
	1.6400	**2.5600**	**3.9400**	-0.0200	-0.0800

Table 5. Mutual fund flows with different investment style (LTF/RMF Funds) - (Continuous)

LTF RMF

	All	Large Blend	Large Growth	Large Value	Mid
Panel B : Monthly Dummy Variables (p-value)					
October	**0.0313****	**0.0355****	**0.0411****	0.0382	0.0089
	3.1200	**2.7000**	**7.0300**	0.4200	0.4100
November	**0.0943****	**0.1251****	**0.1136****	**0.3021****	**0.0870****
	9.4700	**9.6200**	**19.5900**	**3.3800**	**4.1000**
December	**0.0406****	**0.0539****	**0.0201****	-0.0061	**0.0602***
	4.0800	**4.1300**	**3.5000**	-0.0700	**2.8300**
N	15087	3417	5139	164	452

Table 6. Mutual fund flows with different investment style (Non-LTF/RMF Funds)

	All	Large Blend	Large Growth	Large Value	Mid	Small
GARCH	**-0.3518****	**-0.5533****	**0.1188***	-0.3166	**-0.3846***	5.3618
	-2.9300	-3.7100	2.2300	-1.5300	-1.9400	0.7900
Ln(TA)	**-0.0627****	**-0.0478****	**-0.0254****	**-0.0308****	**-0.0238****	**-1.2201****
	-26.6000	-15.1600	-18.2300	-5.3000	-5.6500	-7.2300
Ln(AGE)	**-0.0228****	**-0.0182****	**-0.0088****	**-0.0125****	**-0.0119***	0.0145
	-8.5300	-5.2300	-5.6700	-3.5600	-2.9100	0.1800
RANK	0.0013	0.0007	0.0010*	0.0006	-0.0031**	0.0520**

	1.4100	0.5600	1.9300	0.5100	-2.2900	2.8800
BV	0.0191	0.0310	-0.0404**	-0.0439	-0.1164*	-0.1980
	0.4700	0.6100	-2.1800	-0.6500	-1.7500	-0.1100
TERM	-0.0020	0.0022	-0.0010	0.0028	-0.0054	-0.1102
	-0.7800	0.6800	-0.9100	0.6300	-1.2500	-0.7400
CDS	-0.0016	**0.0154****	**-0.0117*****	0.0030	**0.0177****	-0.1721
	-0.2900	2.2800	-4.8500	0.3000	1.9900	-0.5700
RSI (t-1)	0.0229	-0.0041	**0.0141****	0.0023	**0.1095*****	**1.1472****
	1.5800	-0.2200	2.0600	0.1000	4.6700	2.2400

Table 6. Mutual fund flows with different investment style (Non-LTF/RMF Funds) - (Continuous)

	All	Large Blend	Large Growth	Large Value	Mid	Small
February	0.0046	0.0030	-0.0017	-0.0062	-0.0074	-0.0705
	0.5500	0.2800	-0.4200	-0.4900	-0.5500	-0.3800
March	0.0112	-0.0009	-0.0018	-0.0095	-0.0133	-0.1107
	0.0046	0.0030	-0.0017	-0.0062	-0.0074	-0.0705
April	0.0153*	0.0010	0.0005	-0.0103	-0.0016	-0.0247
	1.8300	0.1000	0.1400	-0.8100	-0.1200	-0.1300
May	0.0001	0.0083	0.0037	-0.0140	-0.0220	-0.0039
	0.0200	0.7800	0.9200	-1.1000	-1.6400	-0.0200
June	-0.0045	0.0061	-0.0059	-0.0097	0.0072	0.0861
	-0.5300	0.5700	-1.4700	-0.7600	0.5400	0.4500
July	**0.0142***	0.0160	-0.0018	-0.0088	0.0146	0.0249
	1.7200	1.5200	-0.4500	-0.7000	1.1000	0.1300
August	0.0070	**0.0245****	0.0059	-0.0184	0.0149	0.0778

	0.8500	2.3300	1.4800	-1.4700	1.1300	0.4100
September	0.0115	0.0087	**0.0086****	-0.0149	0.0106	0.1219
	1.4000	0.8200	2.1400	-1.2000	0.8000	0.6100
October	0.0128	0.0112	**0.0123****	-0.0142	-0.0034	**0.3757***
	1.5500	1.0600	3.0700	-1.1300	-0.2600	1.8800
November	**0.0297*****	**0.0415*****	**0.0251*****	-0.0158	0.0182	-0.2879
	3.6500	3.9800	6.3200	-1.2900	1.4000	-1.5200
December	0.0094	0.0094	-0.0019	0.0190	0.0108	0.0174
	1.1600	0.9100	-0.4800	1.5600	0.8300	0.0900
N	29679	10928	14378	1985	562	113

5. Conclusion

The aim of this paper is to consider the asset allocation behavior of investors due to the economic and market condition and can be concluded that, investor allocates their assets by the economic and market condition except tax-benefit investors because for the tax-benefit investors this study founded a seasonal pattern of buyingthe mutual funds which occurs on the nearly end of the year.

For the study of the allocation behavior between asset classes, I founded that when the stock market's volatility(measure by GARCH model) is high there has a positive excess flow come into the equity and allocation funds but fixed income fund has an outflowthe which shows that investors allocate their asset into equity funds when the market is in the volatile condition ,for the term spread and cds price which represents the economic condition are show that there has a fund outflow from the equity funds when economic condition is poor. And the point of interest is on December we founded the positive flow into the equity fund. Because the buying behavior of tax-benefit investor in the month nearly the end of the year.

Next, I study the behavior of the investor to choose the mutual funds with different styles of investment. I categorize the mutual fund by its investment style which represent the risk level. I founded that when the market volatility is high investors allocate their assets into risky assets (growth-stock and small-stock funds) and when the economic condition (term spread and cds price) is poor investors allocate their funds away from equity funds, especially risky investment style (small-stock funds) and I still founded the positive flow on December for large-stock funds hence, I have separate tax-benefit and non-tax-benefit funds to study the seasonal flow pattern. And founded that the tax-benefit investor they do not allocate their funds according to the market or economic condition, they tend to buy the mutual funds in the nearly-end of the year (the 4th quarter) and the result show that the abnormal flow in the nearly end of the year is come from the LTF and RMF funds because when the LTF/RMF fund is exclude from my sample

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Vendor Performance Management to Maintain Sustainability for the Manufacturing Firms

Lidwin Kenneth, Mahesh Prabhu and Giridhar Kamath

Abstract

Evaluation & measurement of Supplier's performance is an intricate part of any business relationship. It is an extremely important management tool for those using Strategic Alliances, Partnering or Supplier Development. Over the past years, both the manufacturing and service firms have become more and more aware of the prominence of supplier performance and its critical impact on their own performance and market competitiveness. To improve the performance of the suppliers, Supplier Performance Management (SPM) is widely practicedin the industry today. To have a competitive edge manufacturersfollow SPM for a perfect supplier scorecard. The supplier performance will be enhanced if they get theright metrics on the scorecard. Successful results include: reduced costs, reduced risks and increased quality. This paper discusses critical practices for implementing SPM by creating an effective process to develop meaningful supplier performance metrics.The study was conducted for a heavy machinery manufacturing company dealing with overhead cranes. The methodology used was ABC analysis to identify the critical suppliers, dashboard analysis to evaluate them based on the metrics and vendor rankings based on scorecard analysis.Primary data for analysis was collected through a survey of the suppliers and secondary data from company records and other relevant sources. Based on the study findings, the best supplier was identified and rewarded to continue the best practice and developmental activities were planned for the others.

Keywords: *Vendor evaluation; Supplier performance; ABC analysis; Heavy machinery; Key Performance Indicators*

1. Introduction

The new millennium has increasing number of world-class competitors, domestically and internationally and these are forcing organizations to improve their internal process in order to stay competitive. The information in the internet has shifted the balance of power between buyers and sellers. The competitions and choices havemade the customers to want for better quality, faster delivery of products and services tailor made to their individual needs at a lesser overall cost. As organizational capabilities improved in the 1990's, managers began to realize that material and service inputs from suppliers had a major impact on their ability to meet customer needs. Companies also realized that, delivering the right products and services to customers at the right time, cost, place, conditions and quality constituted an entirely new type of challenge.

The supply base is an important part of the supply chain and supplier's capabilities can help differentiate a producers final good and or service. During the 1980s, superior management of supplier relationships gave Japanese automobile producers a $300 to $ 600 per car advantage, an advantage that GM, Ford and Chrysler did not have. Vendor development teams that also includes vendors as members reported that they receivedsuggestions for improvement from the vendors which added new value to the purchasing process.

Studies revealed that several firms lacked a system for measuring supplier performance, a key component of supply chain effectiveness. Several other researchers have emphasized on monitoring the performance of internal supply chain activities rather than tracking the end – to – end performance of supply chain. The measurement process also helps determine if new initiatives are producing the desired results, finally measurement may be the single-best tool to control purchasing and supply chain process. Furthermore, relationship based on mutual trust and respect must underlie the purchasing effort. With this

given background, this project was focused to measuring vendor performance system with respect to M & M Engineering.

Statement of the Business Case

The M & M is a major player in Crane industry and they are manufacturing Overhead cranes for their customers across the globe. They found that their market share has dropped from 30 to 20 % in past two years. This was because the company lost some of their key Customers. The organization understands from their key customers for the reason behind the drop of market share is due to poor performance in delivery, quality and cost.

The organization had an introspection / root cause analysis and they arrived at an inference that, it might be because of suppliers. The company has around 400 odd suppliers. They did not have a system in hand which will track the performance of the suppliers. Hence the scope of the project was to evaluate the performance of the key suppliers and give inference and suggestions to the top level management for corrective action and scope for further improvements.

1.1 Scope of the Study

The company have to understand the ground reality of the vendor's performance, so that their long lasting relationship can be maintained with the vendors by which the companies can strengthen the raw material supply and ensure raw material availability on sustainable basiswith respect to critical key performance indicators such as Delivery, Quality and Cost. By conducting this study with the vendors,company can understand thevendor's performance and scope for the improvement. Besides, company may get some inputs from the vendor's, as further improvement for achieving business goal. This will enable the company to realign the supply chain process towards continuous improvement in the competitive business environment as outlined below:

i.   To understand an overall vendor performance.

ii. To identify the competitive advantage of each vendors with respect to critical KPI's.

iii. To design a methodology to track the KPI.

iv. To suggest solution to the industry to improve the vendor performance.

v.   To design a feasible system for continuous improvement.

1.2 Key Performance Indicators and Measurement:

Experts found a strong bonding from the majority of supplier and customer integration to market share and profitability. Firm's performance can be correlated by taking advantage of supplier capabilities and emphasizing a long-term supply chain perspective in customer relationships. The competency in logistics is becoming a more critical factor in creating and maintaining competitive advantage, as the logistics measurement becomes gradually important because of the gap between profitable and unprofitable operations becomes slimmer. Several researchers have highlighted the importance of including Cost, Quality and Lead time for supply and Responsiveness in measuring productivity of firms.

2. Literature Review

In a study on the gas and electricity utility markets of Netherlands, Cees et. al. (2008) explored specific influence strategies. This study pointed out that main suppliers were not much worried about the negative effects of reinforced strategies. In an attempt to win buyer confidence, dominant suppliers put in to practice several effective strategies. One of them would be using a series of influence strategies. As long as the results are favorable and as expected, the dominant suppliers have no reason to be worried of and can carry out their plans and execute productively.

Many researchers have studied the risk issue is depth and have provided several insights in to risk management. Munnukka and Järvi (2008), tried to study risk management through the angle of a buyer and the results were quite astonishing. In their study on 15 business organisations, Munnukka and Järvi (2008), adopted interview method and they concluded that business organizations dealt with risks very diligently and tried everypossible step to minimize arbitrary decision makings owing to unpleasant pressure situations. The semi-structured interview that were conducted, led to conclusions that suggested decentralization and collective decision making could lead to better fundamental solutions to problems.

Boudewijn et. al., (2010) conducted studies on sourcing teams and found out that lack of team spirit and the inability to see the benefits of synergy as a part of team culture is the main obstacle in productivity growth of the organization in many purchase organizations in India. Hence it is necessary to inculcate habits that encourage team work and unity of direction. He highlighted the importance of initiatives that encouraged employee involvement and factors that drove team play. Kai Foerstl et. al., (2010), focused on the various obstacles faced by the purchasing firms. Kai Foerstl et.al studied chemical firm and figured outfactors that could help the firm get sustainable competitive advantage and one such factor is handling the suppliers with utmost care and dealing with supplier issues with priority and impeccable seriousness.

3. Objectives of The Study

Following are the Objectives of the study

1. To study the present vendor performance of M & M company.

2. To analyze the vendors performance with respect to Quality, Cost, Delivery and Responsiveness of M & M company.

3. To study the source list of suppliers and identify critical vendors, i.e top ten vendors by ABC analysis.

4. To study about the benefit to the company derived from the present vendor performance measurement system.

5. To study the factors deterring the vendor performance

6. To find a scope for further improvements.

4. Methodology

4.1 Research design.

To study the performance of the vendor, descriptive research design is used. The output of the research is expected to measure the current status, find the deficiencies, solve the problem and find some feasible methods for continuous improvement. The statements of the data inputs are derived on the basis of firms own goals, objectives and strategies. Thus, the research metrics has adapted to reflect the ground reality with respect to the firms business requirements.

4.2 Sample Design:

Convenient samplings are used to collect data from a sample of 10 respondents, which are conducted in the "real-world" environment. The variables to which the test units exposed are appeared as under normal circumstances. This form of experimentation had provided high level of external validity, as the respondents were reacted as they would in normal circumstances.

4.3 Dashboard Analysis:

After identification of the KPI's the vendors were analyzed based on the overall performance of KPI's of all the vendors which is as shown in the Figure – 1

4.4 Scorecard Analysis:

After the completion of the Dashboard Analysis, equal weightage is given to all KPI's which helps in ranking of all the Vendors which is as shown in Figure -3

4.5 Sources of Data:

4.5.1 Primary source:

With the help of questionnaire data is collected with respondents of 10 members using Likert five point scaling technique. Location of the data source is from the subject lives. The data was collected through interacting personally face to face with the respondents. The subject matter was introduced with a simple way ofcommunication in a local language. Through perceiving situation, the statement of the data input has been recorded manually in the questionnaire.

4.5.2 Secondary source:

Secondary source of data is collected from all the sources of record from the company, journals and magazine

4.6 Data Analysis:

The available raw data has been used for vendor performance analysis. For effective focus on this study towards achieving business goal, top ten vendors have been chosen by ABC analysis.

Dashboard and Scorecard analysis has done with respect to Vendor's delivery system, Quality, Cost and responsiveness.

This analysis provides many insights to the company and helping to identify the efficient vendors with respect to changing the priorities of the above cited KPI's.

A model screen shot as attached below is proving an example for a vendor with respect to the chosen critical KPI's.

Percentage method has been used for data analysis and comparing the vendors performance.
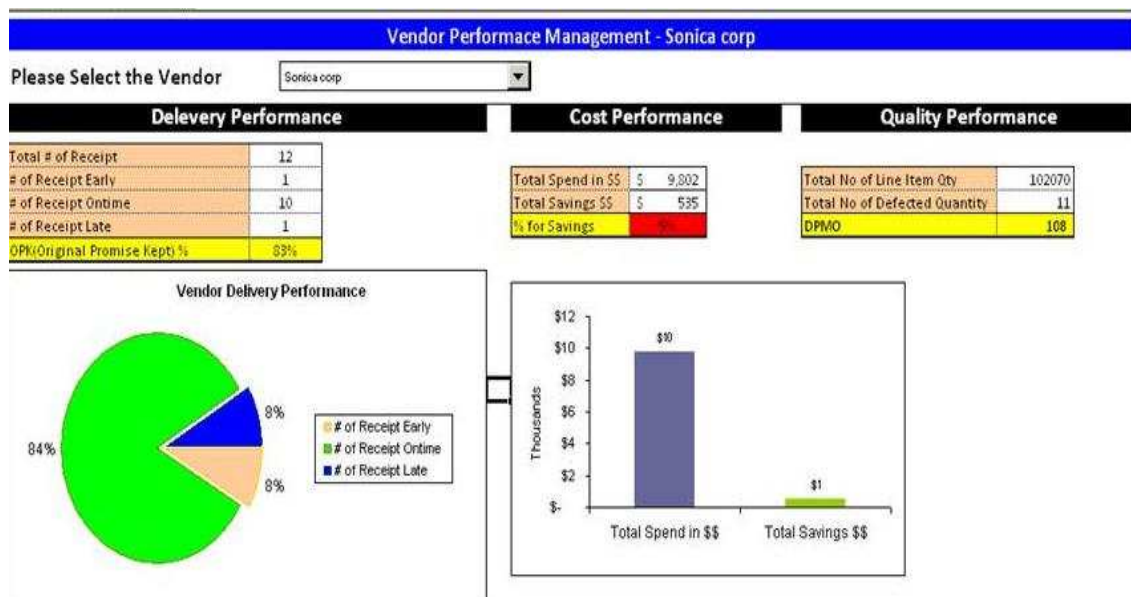

Fig.1. Indicates an overall performance of a vendor Sonica Corp with respect to delivery, Cost and Quality factors.

Fig.2.Indicates an overall performance of a vendor Sonica Corp with respect to Responsiveness.

Fig.3. A model score card presenting relative ranking among top ten vendors with respect to critical KPI"S such as Delivery, Cost, Quality and Responsiveness

5. Key Findings:

1) The research identified the top 10 supplier in terms of the spend using the ABC concept.

2) Based on the organization priority weightage has been given for the components and prioritized the vendors.

3) In terms of overall rating for the suppliers, by giving equal weight age for all the 4 components "H M Construction" is the best or ranked as no 1 supplier, followed by" AM brothers" … as seen in the scored card.

4) In terms of Delivery, "AM brothers" is the best, as the supplier is delivering the materials 93 % on time. Whereas the "RM tires "delivers the materials early which act as an inventory for the organization.

5) In terms of Cost, the researcher compared the base price with the actual price incurred for purchase based on which the supplier was rated. The score card reveals the information that, which supplier is the best in terms of cost saving.

6) In terms of Quality, the actual number of defect per ordered Quantity to total order Quantity sent by the supplier was calculated and recorded. The scorecard provided better visibility for the organization to identify which vendor is good in terms of quality and can make bench mark for other suppliers.

7) The last part is responsiveness of each supplier, which would be in form of questionnaire which will be filled by the department and measurement done based on the response

6. Suggestion for Continuous improvement:

The research suggested the organization to follow the process of getting the responsiveness from the department on monthly basis. Same Excel file can be used by the organization for getting the visibility for critical components providing supplier.

The top Management can bench mark all the supplier by using this methodology, they will be able to develop a system for identifying the good supplier later who can become a strategic sourcing partner.

The other metrics in all the four components should be identified and included in the process.

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How Sustaining ERP Project Legitimacy?
Two Cases of Successful Implementations

Régis Meissonier and Emmanuel Houze

Abstract

Over the last decades, the global economy challenge forced a large part of large and medium enterprises to implement ERPs to reengineer and standardise their business processes. Even if these IT implementations represent a high-cost high-risk endeavor, organizations still invest precious financial, human and time resources in these projects. In this paper, we aim at uncovering how implementers' practices sustain ERP project legitimacy. The preliminary analysis of our results compares data collected from two of our three targeted cases studies: a North-American university and an Asian corporation. Our results reveal that, while legitimating practices must be enforced at both the organizational and individual levels, the path to achieve such legitimacy will likely be different from one context to another. While our results confirm that the pragmatic, moral and cognitive aspects of legitimacy are critical to ensure the achievement of an ERP project, our cases also suggest that the timing and saliency of a given legitimacy aspect will be different from an organization to another.

Keywords: legitimacy; ERP; project management; case studies

1. Introduction

In both research and practice, much attention has been devoted to issues related to enterprise systems (ERPs) implementation. In the business world, ERPs (Enterprise Resource Planning) represent the most important cost item of the IT budget of most organizations. Yet, ERP implementation results remain far from stellar, with failure rates exceeding 50%, even when implementations are supported by consultants and best practices (Hung et al. 2012). Despite the fact that ERP implementations represent such a high-cost high-risk endeavour, business organizations are still choosing to invest precious financial, human and time resources in these projects. A large part of large and medium enterprises have implemented ERPs over the last decades (van Vuuren and Seymour, 2013). In information technology (IT) research, there is a wealth of papers that are focusing on issues related to ERPs (Seddon et al. 2010; Strong and Volkoff, 2010). The fact that ERPs now represent a standard in many industries seems to be an important rationale for enterprise system organizational investments and might contribute to explain such a paradox, that is the fact that organizations are continuing to invest resources in these implementations despite their high failure rate. Indeed, research has shown that conforming to standards contributes to bring in legitimacy for organizations (Meyer and Rowan 1977; Oliver 1991; Suchman 1995). While the importance of organizational legitimacy has been widely acknowledged in the management literature (Bitektine 2011; Suchman 1995; Tost 2011), in IS research, we still need a thorough understanding as to how IT legitimacy can be achieved and sustained all along the course of an IT implementation project. More precisely, we aim at uncovering how implementers' practices affect ERP project legitimacy at both the *organizational* and the *individual* levels. The preliminary analysis of our results compare data collected from 2 of the 3 targeted cases studies: a Canadian university and a Thai corporation.

2. Conceptual Foundations

Neo-insitutionalist theorists (Meyer and Rowan 1977; Oliver 1991; Suchman 1995) showed how organizational legitimacy depends on the way structures, processes and procedures are shaped in a way perceived as consistent with cultural patterns and widely accepted beliefs. Legitimacy is viewed as an ambivalent evaluative process of the "social fitness" (Oliver 1991, p. 160) of the way the organization behaves. With his integrative model of legitimacy, Bitektine (2011, p. 156) has stressed on the variety of stakeholders likely to judge an organization legitimacy: investors, advocacy groups and organization's insiders. Employees of a firm also perceive its features, its structural attributes, and the results of its activity from both economic and social perspectives. Depending on the perceived legitimacy of strategic changes that are likely to modify existing cultural or value patterns, employees can adopt them more or less enthusiastically or exhibit dissident behaviors (Boiral 2003). In this sense, legitimacy is dependent of rhetorical strategic discourses between promoters and opponents of strategic change (Suddaby and Greenwood 2005). But the legitimacy judgment is not only about the objectives of the project but also about the way change is managed. If legitimacy has been acknowledged as an important issue in information systems, few research have adopted this alternative theoretical lens (Flynn and Du 2012). However, one can assume that when IT project legitimacy is sustained, users are likely to develop positive attitudes toward its implementation. Conversely, resistance may be viewed as an attitude resulting from the lack of legitimacy granted by users. Some recent studies have shown that legitimation had a significant influence on IS adoption and IT project success (Flynn and Du 2012; Hussain and Cornelius 2009; Kaganer 2010). This focus on the IT legitimation process is all the more important that a lot of IT implementations involve dramatic organizational changes.

To capture and make sense of the diversity of the IT legitimating practices used during an ERP implementation, this article propose to build upon the *pragmatic, moral, cognitive* typology of Suchman (1995) and adapt it at organizational and individual levels. As explained by Suchman (1995), pragmatic legitimacy is associated with how organizational stakeholders perceive legitimacy depending on their self-interested motives. Moral legitimacy refers to *"a positive normative evaluation of the organization and its activities, where stakeholders perceive that they should provide their support towards such activities as it is 'the right thing to do'. Cognitive legitimacy borrows mainly from institutional theory in that when particular activities become familiar and widely accepted in society (...) and taken-for- granted for success."* (Flynn and Du 2012, p. 214). This model was deemed relevant in this study, as it expands the traditional institutionalism perspective of legitimacy to encompass instrumental, psychological and societal dimensions (see Table 1 for details). Little research in IS has investigated how implementers enforce different types of legitimating strategies.

3. Methodology

The main objective of our research project is to understand how legitimacy was achieved and how the implementers' legitimating practices evolve during the course of an ERP implementation, and this at both the organizational and individual levels. To do so, we examine issues related to *pragmatic, moral* and *cognitive* legitimacies. To observe differences we conducted two case studies with organizations that have successfully implemented an ERP in very different contexts: a university in Canada and a corporation in Thailand. Because of the complexity of the organizational and social phenomena related to our research question, we chose a standard technique of qualitative data collection (Boyatzis 1998; Eisenhardt 1989; Miles and Huberman 1984). While we also rely on observation and document analysis, our research design is primarily based on semi-directive interviews and at this point, we have conducted semi-structured interviews with key actors (n=8) in both sites. These respondents played an important role in the ERP implementation project, either at the governance (e.g. steering committee member) or at the operational level (e.g. project manager). While all the interviews were conducted in English, for the Thailand case, to reduce potential cultural biases in the interpretation of the answers, we solicited the assistance of a native Thai researcher, expert in cross-cultural management and Buddhist culture. All interviews were audio-recorded and transcribed to facilitate data analysis.

In line with analytic inductive data analysis principles (Patton 2002), we begun with a first round of deductive data coding. The initial codes were based on the categories derived from Suchman's model and included pragmatic, moral, cognitive dimensions of legitimacy. Next we proceeded to a round of open coding and inductively identified new themes, for example saliency, values, conflicts, etc. During the overall process of data coding, as a team, we reviewed and discussed the codification until we had reached a consensus; this helped eliminate any potential discrepancy (Larsson 1993; Bullock et al. 1987).

4. Findings

2.1. Canadian University Case Study

This top-ranked Canadian University (here referred to as CU) includes 13 Faculties (Agricultural and Environmental Sciences, Arts and Science, Dentistry, Education, Engineering, Law, Management, Medicine, Music, Religious Studies, Science, Environment). The ERP implementation project we are studying was launched in 2009 and lasted for more than two years. It included the implementation of finance, human resources and payroll modules, with major modifications to the original Banner solution[2] that was chosen. The initial objective of the project, as described by the steering committee, was the willingness to harmonize data and procedures among the 13 faculties, as CU encountered problems in terms of data and administration governance over the whole campus. At the outset, the aim was also to align CU practices on that of other universities in terms of IS integration.

Building upon the theoretical lens that we adopted, it seems that *pragmatic legitimacy* was an important aspect in justifying the project launched, given the importance of resolving issues related to non-integrated systems as well as redundant and inconsistent processes across faculties.

"(…) one of the interesting things about this implementation was we were trying to eliminate or reduce the amount of work that was done in silos across the institution. We had separated systems for HR, for finance, for students; and that meant that in the old system if you were more than one of those roles you had to run around and update your address and personal" (Respondent 1).

An additional challenge for the steering committee was to convince that the chosen ERP was more appropriate than alternative IT solutions (vs. a software developed by the IT department for example). CU hired a project manager who had implemented Banner in two neighboring Universities, one in Canada and the other in the US. This decision was consistent with the belief that it was an opportunity to benefit from best practices in term of ERP implementation (*cognitive legitimacy*). In addition, given the "fragmented culture" (Kappos and Rivard 2008) of CU and the difficulty to harmonize processes, the steering committee decided to solicit the support of a large consulting firm (KPMG) because of their reputation in process re-design.

"(...) The culture is almost the reverse of transparency. (...) For example in admissions the information is private. One faculty didn't want another faculty seeing what their information is like, who's applying, what their information was, etc." (Respondent 1) "The culture of McGill is totally opposed to transparency or efficiency values. In many ways it is as decentralized as units and centers of power exist. (…) At McGill though you'd have to negotiate with 13 faculties and even today when we work on new systems there's a lot of negotiations that need to take place to get a process that all, everyone (sounds like) will common stand it out and will agree upon works for the whole institution." (Respondent 4)

To support the internal team, for the actual implementation, the choice of another consultant firm that had a strong experience in ERP implementation, not only in the education sector, but also in medical sector was considered as a better fit with the culture of CU, where the Faculty of medicine faculty was a powerful player. This *moral legitimacy* was not based on the university values as a whole but on the ones of the most important Faculty, which was considered by the steering committee as one of the key stakeholders. It must be noted that the Faculty of medicine adherence to the solution was all the more hoped for by the project team given that it was the strongest bottleneck in terms of process specificities. Its cooperation was a sine qua non condition for success.

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[2] Banner is an ERP for the education sector edited by Ellucian

"Banner works less for example for some kinds of programs than others. Medicine because they have rotations rather than real courses you know medical residencies they don't have courses at all. So, how do you register students? So we had to work a lot with the individual faculties to try and come up with workarounds to meet their needs" (Respondent 1).

Our interviews revealed that academics also played a role of *moral legitimacy* providers at the organizational level. Indeed some of the procedures were created from ages and some of them as embedded in the history of the university. As a consequence, from a cultural perspective, modifying a procedure was not only the business of administration but had to be validated by academics even if they were not concerned by all processes.

"… at McGill, procedures are sacrosanct and we often had to go to academic committees to say the new software doesn't support how we do our business right now do we modify the software or do we modify our policies."(Respondent 1). "… we always need to go to them and say this is what we're proposing because you know it will make things much easier and it's sustainable. But if academic committee decided no that's against our policies and we're not changing our policies then we had to come up with a work around." (Respondent 2)

At individual level, the most conflictual debate about the way to adapt the system to cross-faculty processes concerned the differences between undergraduate and graduate programs.

"You had the undergraduate team who said 'well you guys are just, you grad people are so different from us that we don't even want to have to take that into account; you should just have to do what we have already decided' and the graduate group who was looking at the undergraduate people on the team saying 'but that doesn't work, you don't understand the world I live in." (Respondent 1)

Both the undergraduate and the graduate programs wanted their own existing processes to be implemented. While this underestimated issue created some challenges for the implementation team, its resolution was key in ensuring the adherence of the project by the end-users (*pragmatic legitimacy*). Indeed, it ultimately contributed to facilitate their daily work by streamlining the work. Moreover, to ensure change acceptance at the individual level, the ERP implementers ensured to involve key users who were in a position of relying potential interests for end-users in each faculty (*cognitive legitimacy*). To give a feeling of the importance of these key users, the project team had created an "Enrolment Service" devoted to the recruitment of champion users (*Finance Information System Specialists* and *Student Information Systems Specialists*). Finally, the interviews revealed that other important arguments to make changes accepted at individual level were the onesabout the quality of services delivered to students. The example of the on-line registration procedure was well illustrative of one of the *moral legitimating* practices used by the project managers in this instance.

"It was so easy to convince people that we needed a new system when you showed them what the student now had. (...) Everybody cares about the students you know we're all here for the students; so that was really important. We all shared the value that the students needed to have a good experience when they came here. (…) You know a lot of students expected an online system not a telephone registration system. (…) that telephone system handled 40 people simultaneously okay. Now we're handling hundreds of people simultaneously and the student they're just expecting that. (…) The 24/7 service because people are trying to apply from around the world so their clock isn't the same as ours. So I think that's what we could count on that people wanted to do a good service to the student" (Respondent 2).

All in all, the analysis of the CU case shows how implementers favored several different implementation practices associated with all three types of legitimacy –pragmatic, moral and cognitive. It also reveals how these practices were enacted at both the individual and organizational levels and how they played a role in the achievement of the project.

2.2. *Thai Corporation Case Study*

The Thai corporation we labeled "TC" in this paper is in charge of water distribution across the whole country. The company developed several activities related to water storage, treatment, quality expertise, infrastructure maintenance, etc. TC decided to adopt the SAP solution in January 2011 and to implement the Accounting-Finance and Facility Management modules in the head-office and the five

subsidiaries. SAP became the main IT system for 300 users in less than one year. The growth of the business outside Thailand was the triggering motive to adopt an IS solution consistent with the ones of potential partners, customers and suppliers. Indeed, at the international level, the company participates to cooperation projects with competitors from other Asia countries. The creation of the ASEAN common market in 2014 questions the new business boundaries of TC. In this economical context, the ERP project of the company was legitimated by the objective of implementing a standard IS to be able to adapt their IT infrastructure with potential partners. In this perspective, the project director relied on *moral legitimating* practices, focusing on the idea that, because the Asia common market adopting an ERP was the "right thing to do" in terms of decisive acts for the development of the company.

Given the context, there was a willingness to proceed with a vanilla implementation (without any customization) to maximize the standardization effect. Initially, the solution proposed by Microsoft was the preferred one because of its compatibility to existing applications and data transfer processes with existing databases. However, to sustain the legitimacy of the IT solution in terms of alignment, the implementers finally decided to support the SAP solution, even if it was much more expensive. Then, they promoted this choice based on the wide-belief that SAP being the most diffused ERP solution around the world, it was the one most likely to be used by potential partners (*cognitive legitimacy*). This decision could potentially have been de-legimated by potential opponents to the project. For example, so far, only a minor part of the companies in Asia in water distribution sector are SAP or ERP fitted. Moreover, even if potential partners have, or would decide to adopt, the same ERP, the modules implemented can differ from the ones implemented by TC:

"At the outset, the decision was made to proceed to a 'vanilla implementation' like it is done everywhere around the world. This is why we decided to adopt SAP because of its leader position. Initially, I was not enthusiastic by the editor proposition because of the cost estimated. However, if in the middle-term we need to develop our business through partnerships, we must endorse standard processes. We are not here to change the world, but to be adapted to the world!" (the project director)

When the project was launched, the choice of the SAP solution was further legitimated by the need of the company to have a financial and accounting system that would be more efficient and useful for decision making (*pragmatic legitimacy*). For this purpose, the Accounting-Finance module implemented was the cornerstone of the first phase of the ERP project. The enterprise system was expected to allow the implementation of an integrated database of accounting and analytical reports with the subsidiaries. This finance-centric justification for the project was in line with the way the company had evolved. Until 1997, TC was a public company. At this period it had sold its capital at the Stock Exchange of Thailand (SET). While Waterworks Regional Authorities kept 40% of the capital, the rest was bought by banks and finance institutes. This marked a shift from the public sector culture of TC to a finance-oriented strategy. TC received several awards (in 2003, 2006, 2008, 2009, 2013) from the SET, Thai investor associations, for its performance and profitability for shareholders. In the same perspective, the company aimed to pursue its development abroad while, long-term quality services were less prioritized. For example, despite its R&D activity, TC was still not providing drinking water to the Thai population.

At the organizational level, the ERP project was nonetheless seen as legitimate because of the expected benefits in term of cost reduction, process optimization and harmonization of accounting and finance reporting with the subsidiaries. This *pragmatic legitimacy* was in part achieved through a symbolic act: instead of naming a manager from the CIO as project director, the board nominated the finance Director as project manager. The IT managers were subordinated to him with regards to the decisions that had to be made.

Surprisingly, at the individual level, champion end-users or key end-users were not considered "legitimacy providers". In fact, the project director did not even perceive them as important stakeholders.

"We chose key users among middle-managers only. We only took into account their demands. Lower-level employees don't have abilities to understand what the challenge is! We (ndrl: the top managers) only had to explain to them the company gave a one million dollar tool to their disposal, and it was not for nothing! We are the "big ones" and they are the "small ones" (ndlr: he represents a form of a pyramid with his hands), and we must remind them. They said (ndlr: he looked to the sky and imitated an employee asking a question to a superior). 'Sir, why have we to work with this new software now?' (ndlr: he looked to the

floor speaking to somebody below him). 'Hey! Now you have to work with SAP because it is the international standard and because we are telling you this is the right way'". (the project director)

The change management style at TC took the form of an authoritarian management style giving the impression of "white collars – blue collars" relationship duality. However, our analysis of the Buddhist culture incites us not to consider this situation as a form of enslavement of employees feared by potential hierarchical sanctions or blames. Actually, despite their personal dissatisfactions, the ERP acceptance was associated more with the fact that the employees trusted top managers (*moral legitimacy*). This point highly refers to the "Bunkhun" (or "Katanyu") principle of the Buddhism. "Bunkhun" is often translated as "thankfulness" and corresponds to the gratitude of Buddhists toward the ones providing help. Family members, professors, monks, elders, etc. represent the "building blocks of the moral order" (Niffenegger et al. 2006). Professional relationships are also governed by these symbolist rules. As representative of power and professional experience, hierarchical superiors are considered as "Phu Yai" ("big people") and are worth of a similar gratitude of the "Phu Noi" ("little people"). Indeed, a kind of moral obligation between the two categories shades the asymmetry. "Phu Yai" have to provide assistance and support to "Phu Noi" in exchange of marks of respect. In other words, the legitimacy of a "Phu Yai" is function of his social role as well as his hierarchical position. In other words, from the employee's perspective, the legitimacy of the project was directly linked to the *moral legitimacy* associated with the top implementers of the project.

If the *moral legitimacy* of the project ensured the ERP acceptance, this does not mean that users did not express any resistance. Until the SAP implementation, the employees of the finance department did not have to meet stringent deadlines, as managerial practices were less short-term oriented. The board of the directors made most of the decisions more progressively, in several steps, and employees had more time to put together the required data. It was common to extend reporting over several board meetings; decisions were being made after several months only. SAP imposed a detailed financial budget being established before a project activity could be created. The project director recognized that the most disturbing point for the end-users was the new frame imposed by more urgent strategic decision-making needs, which had to be enforced due to the growing competition.

Users acts of resistance were expressed using with a "Thai style" where resisting does not mean avoiding to do what one has to do. One respondent explained that while employees did not ask for any module customizations, they were however expecting top managers to play their role of Phu Yai and give compensations for SAP usage, for example training, career plan, and/or financial incentives. These *pragmatic legitimating practices,* which were indeed enforced at individual level, represented some kind of moral counterpart to the Bunkhun principle shaping relationships between project stakeholders.

5. Discussion and Conclusion

The interviews we conducted reveal how legitimacy was achieved and what were the legitimating practices carried out by implementers – at the governance and at the operational levels – during the course of the implementation of an ERP project. While several of these practices are consistent with what are considered project management best practices (Nelson, 2007; Wagner & Newell, 2004), some appear to be more symbolic and aimed at ensuring the adherence of the stakeholders to the ERP project.

Data collected show that the legitimacy of the project evolves during the course of the implementation. In some way, it reveals what we call a *legitimacy trajectory*. At CU, initially, implementers favored argumentation strategies that belonged to the pragmatic and/or cognitive legitimacy categories. They first relied on organizational *pragmatic legitimacy* to convince stakeholders that the project was indeed needed (e.g. to streamline existing processes) and on *cognitive legitimacy* to demonstrate that they were intending to build upon best practices to ensure the success of the project. At the individual level, project managers made sure to demonstrate that the new ERP would contribute to facilitate the end-users' daily work (*pragmatic legitimacy*) and involved champion users to add credibility to the process (*cognitive legitimacy*). However, at the organizational level, the global acceptance of the project by the stakeholders relied more on the *moral legitimacy* aspects, i.e. the fact that the implementers ensured that academics were adhering to the project (key stakeholders) and that the project recognized the special status of the Faculty of medicine. The *moral legitimacy* aspect of the project also played a role, although less significant, at the individual level. Here, it had been important to show that the implementation of the ERP would allow

providing better services to students, an important fact in light of the mission of the organization; it contributed to end-users' acceptance of the project.

Our second case study suggests a different legitimacy trajectory of the ERP project. The interviews we conducted at TC revealed that implementers initially used *moral legitimating* practices to convince the stakeholders of the appropriateness of the ERP project, in that there was a need to adapt the corporation to the Asian common market (ASEAN 2014). These arguments were reinforced by the symbolic actions of the project director, who selected an IT solution that was seen as the standard and which was well diffused one in that business sector. Here, the decision to go ahead with the vanilla implementation of SAP modules instead of the preferred one of Microsoft translates *cognitive legitimacy,* as the Microsoft solution was perceived as better aligned with TC needs, but less likely to be adopted by potential foreign partners. At the organizational level, implementers justified the SAP adoption decision by arguing that there would be improvement in the management of the subsidiaries. These *pragmatic legitimating* practices were congruent with the way the culture of TC had evolved from having a public service mission to becoming a more finance-centric business since the quotation of the company to the Stock Exchange of Thailand. At the individual level, implementers only considered middle-managers as legitimacy providers and enrolled them, instead of employees, as champion users given that the latters received very little consideration (*cognitive legitimacy*). Actually, *moral legitimacy* played a dominant role at individual level because of the Buddhist culture was contributing to shape behaviors. Indeed, from the employees' perspective, the legitimacy of the project director (as *"Phu Yai"*) was linked to the legitimacy of the project itself and it contributed to ensure the ERP acceptance by end-users. Finally, the *pragmatic legitimacy* practices that were enacted played a relative minor role in the project achievement; they mainly consisted as compensations provided for the inconvenience of using the new system.

The *legitimacy trajectories* were different in each case and this put forth the overall influence of the socio-cultural context in the way IT project achievement can be achieved. One common point in the two cases is the dominant influence of *moral legitimating* practices, in terms of change management fit with values and beliefs shared both at organizational and individual levels. We do acknowledge that these results are only preliminary and that more data analysis and theory development are needed to exploit the richness of our data. However, our results already have some interesting implications for the IT legitimacy and IT implementation streams of literature. Indeed, our cases indicate that ensuring IT legitimacy is a critical issue for ERP project implementations. They also show that legitimacy has to be perceived at both the organizational and the individual levels to ensure the achievement of such projects. These results, can – at least to some extant – contribute to explain the high failure rate of ERP implementation projects. For an ERP package to be acquired, organizations have to make sure that organizational legitimacy is recognized by the stakeholders. However, our two cases indicate that the legitimating practices that are successfully enacted at the organizational level can be quite different from the ones that can ensure legitimacy at the individual level. This is in line with recent IT studies that have shown how "legitimacy providers" play an important role in IT projects (Flynn and Du 2012). Our results also reveal that, while legitimating practices must be enforced at both the organizational and individual levels, the path to achieve such legitimacy will likely be different from one context to another. While our results confirm that the pragmatic, moral and cognitive aspects of legitimacy (Suchman 1995) are critical to ensure the achievement of an ERP project, the timing and saliency of a given IT legitimacy aspect will be different from an organization to another.

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Utilizing In-house Residents to Enhance the Performance of the EDC-UUM: A Supply Chain Model

Engku Muhammad Nazri and Masnita Misiran

Abstract

This article proposed a supply chain model for the Executive Development Center of Universiti Utara Malaysia (EDC-UUM). Characteristic of a hotel supply chain is studied and further maps the supply chain to suit the characteristic of EDC-UUM. The proposed model involves with the extensive utilization of in-house campus residents, e.g. lecturer and students.

Keywords: supply chain model; service; mapping

1. Introduction

Since the 1970s, quality management has been a preeminent strategic focus of companies. In the 1980s, topics like lean and flexible manufacturing, and just-in-time became the means for companies to gain a competitive advantage in a quality-management environment. Now, globalization and the evolution of information technology have provided the catalysts for supply chain management (SCM) to become the strategic means for companies to manage quality, satisfy customers, and remain competitive (Russell and Taylor, 2005).

The term "supply chain management" arose in the late 1980s and came into widespread use in the 1990s. Prior to that time, businesses used terms such as "logistics" and "operations management" instead (Hugos, 2003).

SCM can be defined as the systematic, strategic coordination of the traditional business functions and the tactics across these business functions within a particular company and across businesses within the supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole (Mentzer and Min, 2001). Prior to that, Harland (1996) elaborately defined SCM as "managing business activities and relationships (1) internally within an organization, (2) with immediate suppliers, (3) with first and second-tier suppliers and customers along the supply chain, and (4) with the entire supply chain. Interested readers can refer to some other definitions in Hines (2004), and Lambert (2008), to name just a few.

Supply chain, on the other hand is "the alignment of firms that bring products or services to market" (Lambert, Stock, and Ellram, 1998). It can also be defined as "a network of facilities and distribution options that performs the functions of these materials into intermediate and finished products, and the distribution of these finished products to customers" (Ganeshan and Harrison, 1995). It consists of all stages involved, directly or indirectly, in fulfilling a customer request. The supply chain does not only include the manufacturer and suppliers, but also transporters, warehouses, retailers, and customers themselves (Chopra and Meindl, 2001). Furthermore, it also includes purchasing, manufacturing, warehousing, transportation, customer services; demand planning, supply planning and SCM. It is made up of the people, activities, information and resources involved in moving a product from its suppliers to customers.

Recognized or not, supply chains exist in both service and manufacturing organizations, although the complexity of the chain may vary greatly from industry to industry and from firm to firm. Every organization has a unique chain (Roberts, 2003).

Supply chain exists externally and internally, thus requiring cross-functional effort, and more importantly, it is multi-tiered in the sense that it spans beyond the hotel's immediate suppliers and customers (Roberts, 2003). However, it is not logical to focus on each tier extensively. In some cases, a fourth-tier supplier might not even be known. However, understanding that the supply chain has multiple tiers, beyond just a supplier and a customer, will help the hotel management know what to focus their efforts and time on while making good decisions that do not negatively affect other tiers.

Any hotel's supply chain applications should comprise of relationships of the hotel with its suppliers (backward linkage) and tourism/customers intermediaries (forward linkage) (Ozturen and Sevil, 2009). Among the key factors to consider in a hotel supply chain model are financial and non-financial measures, as well as high collaborators and low collaborators (Kotler and Armstrong, 2006). Furthermore, for the non-financial measures, in addition to product flows, all information flows and services must be traced as well (Roberts, 2003).

Information is crucial in any hotel's supply chain. It is used for two purposes namely, in coordinating daily hotel activities related to the functioning of the other drivers in the chain, and in forecasting and planning to anticipate and meet future demands (Hugos, 2003). Other than information, the hotel must also have the ability to meet the dynamic competition that exists in today's market environment (Prahalad and Hamel, 1990). To remain competitive, the hotel management should place more emphasis on understanding its competencies or capabilities (Hamel and Prahalad, 1994).

Until very recently, there are limited researches, both empirical and conceptual, which examine the concept of SCM within tourism sector (Muchina and Popovici, 2008; Kozak *et al*., 2008; Zhang *et.al*., 2009; Simon and Roy, 2009; Pibbonrungroj and Disney, 2009; Rusko *et al*., 2009). Piboonrungroj and Disney (2009) reported that there were only 44 TSCM studies prior to 2009 with 66% published in the year 2008 and 2009. Out of those, none focuses on hotel supply chain.

Intercontinental Hotel Groups enhanced their supply chain strategy for 2013-2017 by integrating corporate responsibility criteria into the selection and evaluation process for all suppliers and tracking as well as reporting supply chain diversity (http://www.ihgplc.com/index.asp?pageid=764).

2. Executive Development Center Hotel, UUM (EDC-UUM)

The Executive Development Centre of Universiti Utara Malaysia (EDC-UUM) started its operations in September 2006 as a training and seminar venue cum hotel. Specifically, EDC-UUM was established to perform four objectives as below:

- To act as Universiti Utara Malaysia (UUM)'s training hotel, not only to the students and staff of UUM, but also to all the other learning institutions as well as other government institutions and corporate bodies.

- To generate income for UUM.

- To provide a unique, friendly, pleasant service, and atmosphere for UUM guests.

- To create employment opportunities in the hotel industry to the potential local community.

At the time this study was conducted, Mr. Mohd Fauzi Zainal Abidin is the General Manager who is responsible for the entire operation of the EDC-UUM establishment. He holds responsible over the overall EDC-UUM operation and answerable to the Vice Chancellor of UUM. He is accountable to the management team, overall management of hotel staff, budgeting and financial management, creating and enforcing business objectives and goals, managing projects and renovations, management of emergencies and other major issues involving guests, employees, or the facility, public relations with the media, local governments, and other businesses.

At this point in time, the demand for training and seminar rooms as well as hotel rooms mostly come from UUM itself with some occasional demand from outside of UUM. Although the yearly revenue generated has already exceeded its operating cost for the past three years, record shows that the utilization rate of the seminar and training facilities as well as hotel rooms is still rather low (62% and 35%

respectively) and the demand pattern is very seasonal. Thus, there is a need for the EDC-UUM management to increase its effort to improve and enhance its marketability and usability.

UUM and its surroundings have a lot to offer. As a management university, UUM has plenty of management training experts. Its well-preserved training grounds, green campus, large student population, good highway connection, and its location that is very near to Thailand as well as other universities such as Universiti Malaysia Perlis (Unimap) and Universiti Teknologi MARA, Arau Branch (UiTM Arau) are some other plus points. All these should be capitalized by the EDC-UUM management to generate optimal revenue.

Currently, however, there is no concerted effort done by either the EDC-UUM management or the UUM management to really think of how to utilize the available opportunities. Therefore, it is high time for both the management teams to properly strategize EDC-UUM's functions.

Specifically, this study embarks on the following objectives:

- To determine the resources available and opportunities that can be grabbed to strengthen the functions and usability of EDC-UUM.

- To develop a supply chain model for EDC-UUM that will incorporate all the resources and opportunities so that the demand for and the utilization of the training/seminar rooms and hotel rooms can be increased. (This requires the inclusion of innovation and marketing strategies).

3. Algorithm for Supply Chain Model

3.1 Suggested Approach

In developing a supply chain model for EDC-UUM, Roberts (2003) suggests the following steps:

Step 1: Defining and understanding the characteristics of the hotel supply chain. This includes knowing the market the hotel serves (Hugos, 2003). Anticipating demands for hotel services is paramount since customers' demand is the catalyst to the supply chain. In the case of EDC-UUM, these demands come in the form of:

- Rooms

- Training facilities

- Restaurant (F& B)

- Recreational activities (spa, health centre, jungle trekking, etc.). The recreational venues and facilities belong to UUM and therefore are not under EDC-UUM's direct management, but since EDC-UUM is a part of UUM, and some users of these recreational activities opt to stay in EDC-UUM, it is appropriate to include these recreational activities as a part of the demands.

Step 2: Mapping the supply chain. This will help EDC-UUM to identify its links and gaps in its services. The map will show, graphically, where the hotel's time and efforts would be best spent.

To map this EDC-UUM's supply chain, we relied on a model suggested by Kottler and Armstrong (2006), which later used as a framework for getting started, as suggested by Cavinato, Flynn, and Kauffman (2006).

3.2 The Proposed Approach

Taking into consideration Roberts' suggestion, and with slight modification, we followed these following steps to develop the supply chain model for EDC-UUM:

Step 1: Data gathering

This study began with the determination of some factors that are believed to be the sources of EDC-UUM's superior performance in terms of both financial and non-financial aspects, as well as the high and low contributors in EDC-UUM. This was achieved by conducting the SWOT analysis for EDC-UUM. SWOT analysis can be better achieved through scanning, market research, problem-solving inquiries, or direct experience (Day, 1994). Thus, for EDC-UUM's SWOT analysis, we sought information from EDC-UUM's board of directors as well as from some of its loyal customers and literature.

Step 2: Develop the supply chain model.

Normally, this phase will depend on the type of model that is to be built. It is possible that the model's construction phase will use a number of different approaches. We reviewed some supply chain frameworks such as the Global Supply Chain Forum (GSCF), the American Productivity & Quality Center (APQC), Process Classification Framework (PCF) SM, and the Supply Chain Best Practices Framework. The most significant framework was then being applied for EDC-UUM.

In this case, we followed the suggestion by Kottler and Armstrong (2006), i.e. a supply chain can be divided into two linkages: supplier-oriented linkages (involving raw materials, information, capital, and expertise) and customer-oriented linkages. Thus the chain for EDC-UUM could be represented as shown in Figure 1 below.
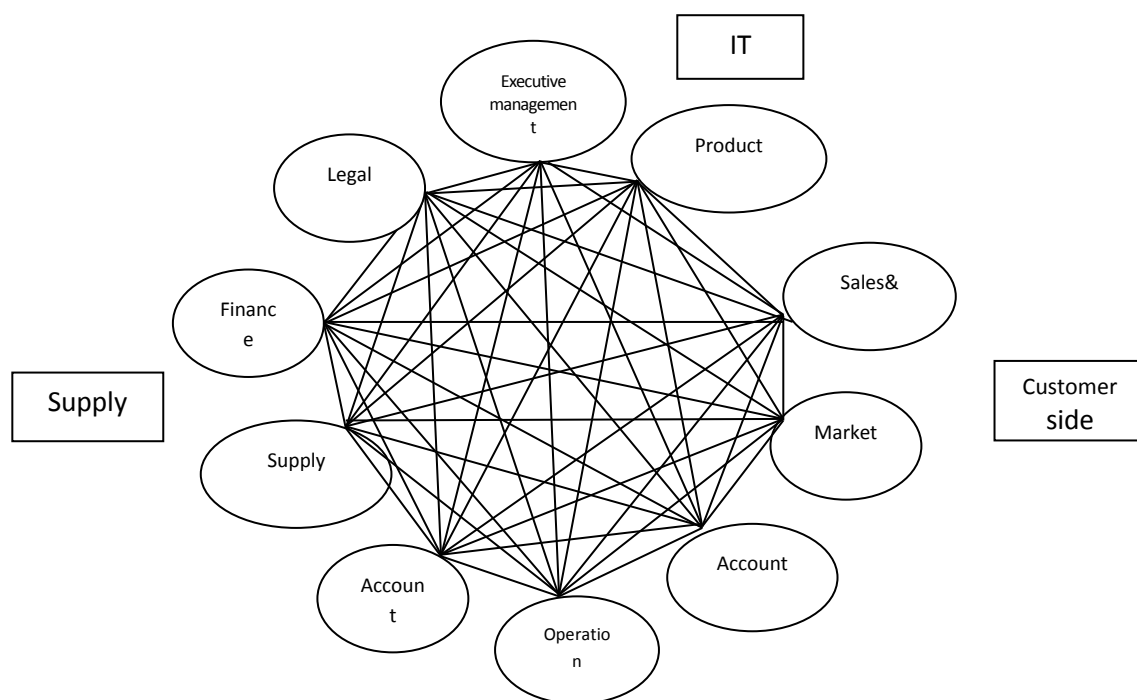
Figure 1: Supply chain model for EDC-UUM

(Adapted fromRichard Tapper, Environment Business & Development Group, 2003)

When mapping, it can be useful to ask questions and diagram the answers, as suggested by Anna E. Flynn, Ph.D., C.P.M., vice president as well as associate professor for ISM. Questions may include:

- Who is the final customer?

- Where do products or services end up after each element?

- Who are the major players in each chain?

- Who is paying whom?

- Whom does each member sell to?

Because an organization may end up with an enormous supply chain map if it considers every customer and every supplier, Flynn suggests using an ABC, Pareto, or 80/20 analysis to determine which customers and suppliers to include in the map. Perhaps, initially, those suppliers and customers involved with the greatest amount of spend for an organization would be mapped.

4. EDC-UUM Supply Chain Links

Now that the focus areas have been identified, we combined the strengths and the opportunities, whenever possible, for the construction of the specific supply chain model. In this paper, we proposed a few supply chain models that involve the utilization of students and experts of UUM and the available facilities in UUM.
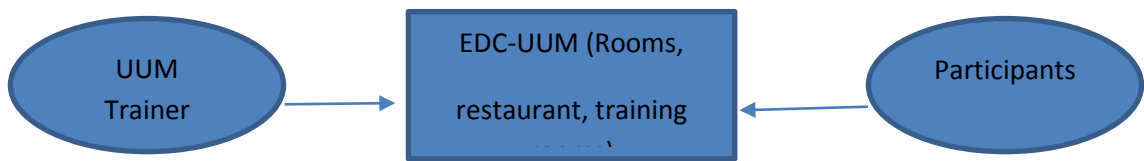
Figure 2: Supply chain involving UUM Trainer
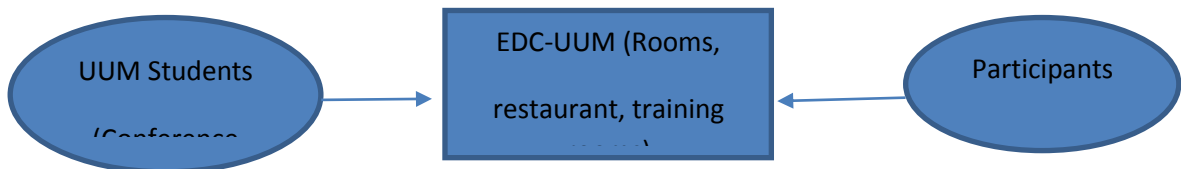
Figure 3: Supply chain involving UUM Students
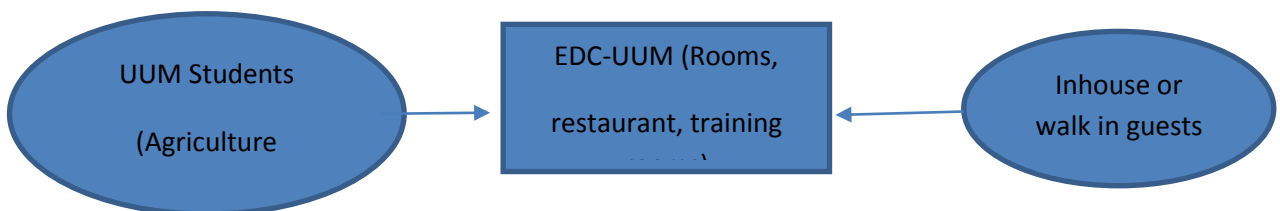
Figure 2: Supply chain involving Students from Agriculture Business Programme

The supply chain model that involves the utilization of students and experts of UUM and the available facilities in UUM

Specifically, we proposed that these in-house residents of UUM to be utilized for the following purposes:

- Staff of UUM

- Students of UUM

- UUM facilities

5. Conclusion

The EDC-UUM supply chain comprises of all goods and services that go into the delivery of EDC-UUM products to consumers. It includes all suppliers of goods and services whether or not they are directly contracted by EDC-UUM or its agents. It also involves many components including accommodation, transport and excursions, food and restaurants, souvenirs, and the infrastructure that supports EDC. In this paper, we illustrated only supply chain models involving services that can be enhanced and new services that can be introduced through the utilization of the available local community. The next action is for the EDC-UUM management to form a working committee to plan and properly execute the suggestions. Perhaps, if EDC-UUM is not ready to implement all at one go, the management must prioritize their action plan.

Stable contracts and foreseeable contracting conditions including prices are paramount, both to facilitate the necessary investments by the supplier and to cement the trust in the relationship. Three conditions in the EDC-UUM-supplier relationship are important for the success of supply chain initiatives: long-term partnership, fair pricing and a consistent volume of operations.

We encourage EDC-UUM to source goods and services locally and in addition to supporting local suppliers. We also understand the need to promote responsible business practices by those same suppliers. By doing so, EDC-UUM would be able to not only reduce its operating cost, but at the same time enhance the quality of the service. Some specific suggestions are as stated below:

- Leveraging on the pool of available Agri-business students in UUM.

- Taking advantage of UUM experts, UUM facilities and infrastructure, and training programmes.

- Making use of the ongoing community works undertaken in UUM to enhance the function and visibility of EDC (lots of opportunities - flood victims, orphanage).

Effective communication is believed to be a significant indicator for successful supply chain as indicated by Chen and Paulraj (2004) and Krause, Ragatz, and Hughley (1999). This includes communication between the entities within EDC-UUM itself as well as communication with the external entities involved in the supply chain. After all, proper selection of suppliers and establishing close relationships with them could lead to a higher customer satisfaction and better financial performance in EDC-UUM (Bensaou, 1999, Stanley and Wisner, 2001).

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A study of customer loyalty towards Caltex gas station in Thailand

Phorphan Chanprasert and Sirion Chaipoopirutana

Abstract

This study has been conducted to explore the relationship between loyalty program, trust, satisfaction, perceived price fairness and customer loyalty towards Caltex gas station. The purpose of customer loyalty relates to increase the market share as loyalty has received important attention in the business operation. In this study, the sample included 400 existing customers of Caltex by distribute questionnaires to 5 sites of Caltex gas stations. The target audience is the motorists who fill gasoline at Caltex. The sampling procedure used judgment sampling, Quota Sampling and Convenience Sampling, the data collection was conducted by considering of geographic area as central, northern, eastern, southern and northeast .The result of this study showed positive relationship between loyalty program, trust, satisfaction, perceived price fairness and customer loyalty.

Loyalty program; Trust; Satisfaction; Perceived price fairness; Customer loyalty

Introduction

Since ten years gasoline stations in Thailand became more competitive when many foreign companies came to invest here and selling gasoline as the core business, now time has changed, there are many factors which persuade customers and their decisions so, the company relies on factors which could gain customer loyalty and repurchase intention, each company uses a differentiation strategy to make their company become successful, for example, a strategy to increase level of service provide has become more important for customer decision to repurchase, creating brand image to represent social responsibility and the most important for business success is "quality", which should meet the need to satisfy customers. Despite the fact that price is one of the main factors that affect customer decisions although the Thai government sets fair standard for all types of gas, there are still small differences that each company can set prices vary based on tax, location and company policy. There are more variable factors which affect customer loyalty and convince them to buy more product or services and ensure that the customer will stay with the company in the long term.

Ganesh et al., (2000) defined that customer loyalty could be used to indicate a held commitment that the customer will repurchase and prefer products or services consistently in the future. Oliver (1999) conceptualized customer loyalty as the repurchase intention to buy the same product or service, or buying the same brand, in varying situations.

Caltex gas station has been recognized as an American company which operates retail business for Chevron, there are 350 stations in Thailand (From Caltex location report of active sites as of June 2015). Caltex gas station has a market share of 7% and was ranked number five in the market. In the year 2015, Caltex expected to expand more 30 sites and change the investment plan by representing 100% for retail invest from their own assets and land with an approximate cost 15 million baht to motivate retailers to continue to develop efficient of products and services. Although the name of Caltex is familiar for Thai people for a long time, only some people know that Caltex was acquired by Chevron and it insisted to use the name "Caltex" instead "Chevron", unlike other gas stations that use the same name as the company itself; there are three strategies that Caltex uses, which are the business for sustainable growth, focus on the quality of products and safety.

This research aims to study customer loyalty, the factor which affects purchasing decision towards Caltex gas stations in Thailand, which could encourage the retailers to develop and maintain customer loyalty, the researcher measures the factors that could increase customer loyalty from customer loyalty programs, trust, satisfaction and perceived price fairness, by using the survey method by distributing 400 questionnaires to motorists who fill gasoline at Caltex, separated by geographic areas of central, northern, eastern, southern and north eastern of Thailand to find the relationship between the variables show below.

Research Objectives

1. To study the relationship between customer loyalty program and trust towards Caltex gas station.

2. To study the relationship between customer loyalty program and satisfaction towards Caltex gas station.

3. To study the relationship between perceived price fairness and satisfaction towards Caltex gas station.

4. To study the relationship between perceived price fairness and loyalty towards Caltex gas station.

5. To study the relationship between trust and loyalty towards Caltex gas station.

6. To study the relationship between satisfaction and loyalty towards Caltex gas station

Literature Review

Theory

Customer loyalty program: Dholakia et al. (2006) conceptualized the loyalty program as reward programs applied as marketing tools to increase customer relationships between seller and customer which benefit to their customer, contribute to purchasing activities by giving them the exclusive or unique identifier.

Trust: Chow and Holden (1997) defined trust as the confidence well placed in a person or confident on something or someone based on their experience, in terms of merchandise, trust represents the confidence in a product, service or brand between the seller and customer.

Satisfaction: Bitner (1990) defined satisfaction is an alternative outcome when customer meets or surplus their expectation and also use to measure the level of their happiness from shopping experience, also used satisfaction as a marketing tool to predict sale in the future causing if the customer satisfies product or service, the sale volume would increase due to customer would repurchase in the future.

Perceived price fairness: Athanassopoulos, et al. (2000) defined the perceived of price fairness as acceptable on price, reasonable price or satisfaction on price and worthy compare with product or service received. Thibaut and Walker (1975) conceptualized price fairness as the customer judgments on price if it is worthy to compare with product or service received. Herrmannet al. (2007) defined perceived fairness price is an important element affecting to purchase decision and rebuy intentions.

Loyalty: Ganesh et al. (2000) conceptualized that loyalty tends to increase repurchase intention, commitment or recommendation intention and continue to repurchase in the future the same product or brand when customers have faithfulness in a brand. Oliver (1999)defined customer loyalty as the deep commitment to rebuy a product or service consistently in future.

Related Review Literature

Relationship between customer loyalty program and trust

Sirdeshmukh et al. (2002) defined the relationship between trust and loyalty program as long-term relationships. Loyalty program is the part of effective marketing plan by reward, discount or give the unique identifier if compare with non-member, the loyalty program has considered as an importance variable which leading trust of the customer. An effective loyalty program could reduce customer dissatisfaction; maintain an ongoing relationship between buyer and seller. A good loyalty program has a positive effect and increases sales volume, likewise reflecting a higher level of trust.

Relationship between customer loyalty program and satisfaction

Shoemaker and Lewis (1999) explained that good loyalty programs should enhance customer satisfaction in terms of reducing the conflict or dissatisfaction between buyers and sellers, in the retail business, the higher rating respond with loyalty program can specify higher level of customer satisfaction towards product or service provided. Huang and Liu (2010) studied how to increase the level of customer satisfaction and loyalty in brand and the result shows that providing rewards or giving discounts is an effective way to reach customer satisfaction.

Relationship between perceived price fairness and satisfaction

Anderson (1994) studied the relationship among perceived fairness of price and satisfaction that customer always compared prices before deciding to buy a product or service, if the customer was satisfied on price, its means they perceived a fairness price. Zeithaml and Bitner (2000) defined that when a customer paid a higher price than others, but received the same or less quality of products or services. It influenced satisfaction.

Relationship between perceived price fairness and loyalty

Varki and Colgate (2001) defined perceived price fairness has a direct effect to loyalty. Xia et al., (2004) studied the psychological dimensions of repurchase behavior which is determined by quantitative perspectives such as pricing strategy and price modeling which influence customers to purchase products and leads the loyalty of a brand.

Relationship between fairness and loyalty

Jarvenpaa et al. (2000) found that trust was always gained by directly interactions between buyers and sellers face-to-face, as when customers perceived greater trust, the greater the loyalty they will perceive. Corbitt et al. (2003) suggested there are many relationships have been presented between satisfaction, trust and loyalty. The consumer who trusts a product or service is more willing to remain loyal and also willing to pay the premium price for it, In accordance with the theory between trust and loyalty, it is consequently concluded that trust has been identified as the major factor to drive customer loyalty (Garbarino and Johnson, 1999).

Relationship between satisfaction and loyalty

Anderson and Fornell (1994) stated that the customer satisfaction is used to determine the customer's attitudes towards products or services provided, when they satisfy, it created loyal behavior which profited to the company. Wunderlich (2006) studied that the customer satisfaction and customer loyalty establishes along in long term goals of business. Yi (1990) studied at behavioral loyalty can generated and become customer satisfaction and it demonstrated repurchase intention with the same brand or same kind of product or service. Oliver and Swan (1989) studied satisfaction and found that they are both associated directly and indirectly with repurchase intention.

Conceptual Framework
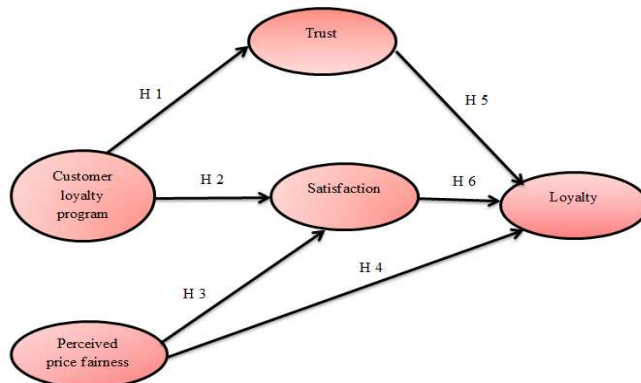
Research Hypotheses

H1o: There is no significant relationship between customer loyalty program and trust.

H1a: There is a significant relationship between customer loyalty program and trust.

H2o: There is no significant relationship between customer loyalty program and satisfaction.

H2a: There is a significant relationship between customer loyalty program and satisfaction.

H3o: There is no significant relationship between perceived price fairness and satisfaction.

H3a: There is a significant relationship between perceived price fairness and satisfaction.

H4o: There is no significant relationship between perceived price fairness and loyalty.

H4a: There is a significant relationship between perceived price fairness and loyalty.

H5o: There is no significant relationship between trust and loyalty.

H5a: There is a significant relationship between trust and loyalty.

H6o: There is no significant relationship between satisfaction and loyalty.

H6a: There is a significant relationship between satisfaction and loyalty.

Methodology

Descriptive research is defined as either quantitative or qualitative analysis which is used to describe the population by using the survey technique to distribute the questionnaires and collect primary data for describing characteristics of target respondents by transforming the raw data to another form which helps to interpret and understand easily. In order to generate descriptive information is used to understand the major problem but it does not answer questions of who, what, when and where (Zikmund, 2003). This research is to study factors or variables which have an effect on loyalty towards Caltex: gas station in Thailand based on the relationship between customer loyalty program, perceived price fairness, trust and satisfaction. This research use collect data by distribute 400 questionnaires to 5 sites of Caltex gas stations. The target audience is the motorists who fill gasoline at Caltex gas station; separately distribute questionnaires equally by considering of geographic area as central, northern, eastern, southern and northeastequally as 80 questionnaires per site. The selections of sites were the provinces where Caltex gas stations were located with the largest population from each region (http://th.wikipedia.org). Those are

Bangkok, Chiangmai, Chonburi, Suratthani and Nakhonratchasima and also focus only site which has the high purchasing volume from Chevron Thailand based on "Chevron Sale Report of year 2014, the selection site are Easy Stop, Star Corporation – Airport, Sri Sai Thong, PM Oil and Pakchonge Santisuk.

Zikmund (2003) defined the sampling procedure as the action of processing to select samples from the group or population by select the subset from larger population to study or investigating a sample then the researcher can make conclusions from the outcome. In the research, the researchers can observe only a part of the population by finding from the sampling by selecting a group from a much larger population that is similar in its trait distribution of the larger population. Findings made from studying the group can then be generalized to the larger population which is randomly chosen and non-probability sampling. On the other hand, Nonprobability Sampling is any sampling procedure that cannot specify the probability that each member of a population has of being selected (Picciano, 2010). Non-probability sampling has four sampling techniques such as convenience sampling, quota sampling, judgment sampling and snowball sampling. In this study, the researchers applied judgment, quota and convenience sampling.

Malhotra (2007) defined the primary data as the original data from the researcher for specific purpose or analyze the research problem. In this research, the primary data were collected by using the self-administered questionnaire distributed to 400 respondents of the target population. The target population is the motorist who fills gasoline at Caltex gas station, separately distributed questionnaires equally considering by geographic area of central, northern, eastern, southern, and northeasternequally distributed 80 questionnaires per site. The selection site base on the province has Caltex gas station locate with the largest population from each region. Which are Bangkok, Chiangmai, Chonburi, Suratthani and Nakhonratchasima.

Findings

Summary of Hypothesis testing

Table 1: Summary the result of Hypothesis testing for Caltex gas station

Hypothesis	Correlation coefficient	Level of significance	Result
H1o: There is no significant relationship between customer loyalty program and trust.	.765**	0	Rejected
H2o: There is no significant relationship between customer loyalty program and satisfaction.	.673**	0	Rejected
H3o: There is no significant relationship between perceived price fairness and satisfaction.	.645**	0	Rejected
H4o: There is no significant relationship between perceived price fairness and loyalty.	.678**	0	Rejected
H5o: There is no significant relationship between trust and loyalty.	.745**	0	Rejected
H6o: There is no significant relationship between satisfaction and loyalty.	.786**	0	Rejected

Discussion

Recommendation

The result of answers from questionnaires shows a strong relationship, therefore the researcher would like to make some recommendations for Caltex gas station to maintain and increase customer loyalty by following:

The result of hypothesis one shows the strong relationship between loyalty program and trust. The researcherwould recommend Caltex to continue the loyalty program along with "Earn and Burn point", currently Caltex gas station has only redeem points by corporates with business one partner "True" as burning True point at Caltex gas station instead pay cash, the significance of earning points should be easily recognizable, for example, corporates with reputation by enhancing the credit card holders to earn or collect point to their credit card in order to fill gas at Caltex gas stations such as 100 baht can earn or collect 10 points otherwise the credit card holders can burn or redeem points from their credit card instead of paying cash at Caltex gas stations. The significant loyalty program consists "Earn and Burn point" has considered as marketing plan that leading customer's trust in brand which supported by Morgan and Hunt (1994).

The result of hypothesis two shows a strong relationship between loyalty program and satisfaction, the research would recommend Caltex gas station to play loyalty program with other products or service, not only for filling gas. For example, the customer redeems their point to buy the lubricants or burning point from their credit card to buy product from mini mart in Caltex gas station. Moreover Caltex gas station should continue maintain physical appearance and cleanliness of every component area such as the cleanliness of mini mart, car wash to motivate customer satisfaction as the loyalty program can increase sales and encourage participation through increased interaction and improve consumer acceptance which is supported by Kim et al., (2007).

The result of hypothesis three shows a strong relationship between perceived price fairness and satisfaction. The researcher would recommend Caltex gas station to continue to provide customers a fair price. The manager should assign staff in the morning shift to check price on board and price on credit card terminal as daily schedule checking at 5 am every morning because the price always effective at 5 am to assured the price is correct in every day. As the study from by Anderson (1994) shows that perceived price fairness is an effective factor to determine the level of satisfaction.

The result of hypothesis four shows a strong relationship between perceived price fairness and loyalty, the researcher would suggest Caltex gas stations to provide premium gifts to customers who fill gas for more than 500 baht; the premium gift could be different from competitors. Basically, many gas stations provide free bottles of water as the same promotion, by the way, the differentiation gifts should be alternative and more effective to create loyalty but based on cost too, for example the tissue with packaging of Caltex brand which looks different and could not be found in the market, the discount for the next purchase. As supported by Padula and Busacca (2005) that the psychological factor which influences consumers' loyalty is perceived price fairness. The customers may recommend family and friends to use Caltex gas stations and also continue being Caltex's customer if they are satisfied with Caltex gas stations, In contrast, the customers may switch to use other gas brands if they are not satisfied with price based on the study from Yieh, Chiao & Chiu (2007).

The result of hypothesis five shows a strong relationship between trust and loyalty, the researcher would recommend to Caltex to form a team to check each site under Caltex brand in terms of oil quality, the quality of equipment and security system such as extinguishers, camera system and fuel dispensers, those directly create trust to customers when they believe that they are secure and can drive customers to be loyal with product and service from that brand in the long run. When consumers perceived greater trust, it increases loyalty towards the brand, which is supported by Jarvenpaa et al. (2000) and the good relationship between customers and sellers can create trust and drive loyalty to repurchase and help them to continue being customers in the future which is supported by Doney and Cannon (1997).

The result of hypothesis six shows a strong relationship between satisfaction and loyalty, the researcher would give the recommend to Caltex to send the trainer to train staff attendant at site basely a time per month to meet the standard of Caltex in term of service and knowledge in product causing a high percentage of staff turnover at site, when the new staff come, Caltex should be sure that they can perform

work and offer customers the same standard. The staff attendant is a one of factor affects the customer loyalty. Based on the studied from Anderson and Fornell (1994) defined that when the customer is satisfied with service provided, they will continue being a customer in the future.

This research aims to study the only some factors which affect customer loyalty at of Caltex gas stations. However, there are many relevant factors which are related to gas stations that the researcher could take more advantage of for future study, the research would describe the attention of future studies by grouping as below:

1. Future studies should examine service quality towards Caltex gas stations by emphasizing factors which are related to customer satisfaction such as responsiveness, reliability, empathy, tangibles.

2. The future study of customer satisfaction between Caltex gas stations with other comparative brand, for example Esso, Shell which are both similar as American companies, the result of the study could benefit Caltex to find opportunities to improve the business in the competitive market and help future development.

3. Based on categories by demographics in Thailand as north, central, west, east, south and north east regions, The researcher skipped the survey over west as the number of Caltex sites is less in the west, however future researchers should study to all parts of Thailand as people are different which may lead to more varieties of answers.

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A Relationship between Satisfaction, Attitude, Service Quality, Trust,Social Influence and iPhone Repurchase intention, in Bangkok, Thailand

Phanuthat Dilokwilas and Sirion Chaipoopirutana

Abstract

This study, the researchers focus on the relationship between satisfaction, trust, positive attitude, core service quality and social influence affecting repurchase intention toward iPhone in Bangkok, Thailand. The independents' and dependents' variable were been analyzes in this research.The price of an iPhone quite expensive compare to other smartphone so, the researcher target the working people who has potential on buying an expensive smartphone and working in crowed area at Silom, Sathorn Sukhumvit and Asoke by conduct from the respondents who has experienced owning an iPhone.

Repurchase intention; Satisfaction; Trust; Positive attitude; Social influence; Core service quality

Introduction

The demand and supply of smartphones in Thailand has encountered a sharp increase in the last few years. Peoples have more alternative choices for buying a smartphone which makes the competition becoming more intense in the present day. Thus, in order to maintain market share, different marketing strategies require for each different brand that must be based on proper targeting with the right marketing mix. The key factors that determine the success of those brands is the customers. So, knowing what the customers' needs is very important for the enterprise to achieve customer repurchase intention.

The demand for iPhones has been increasing since the first model was launched on the market. The popularity of this smartphone make the supply of the iPhone is not enough for the first couple of months of its launch, this happened in almost every country not just only in Thailand even though, iPhone's more expensive than the other smartphone brand available, but it's still the leading smartphone in Thailand.

Research Objectives

To study the relationship between satisfaction and trust.

To study the relationship between satisfaction and positive attitude.

To study the relationship between satisfaction and repurchase intention

To study the relationship between trust and repurchase intention.

To study the relationship between positive attitude and repurchase intention. To study the relationship between core service quality and satisfaction.

To study the relationship between core service quality and repurchase intention. To study the relationship between social influence and repurchase intention

Literature Review

Repurchase intention

Hellier et al., (2003) repurchase intention is the customer repeats process of purchasing products or services from the same particular brand and the key reason is in experience after shopping. Additionally, the repurchase intention is also actual behaviour resulting in the repeat buying of the same product or service more than one time.Customer buy the same product repeatedly from the same sellers and most buying represent a series of event not just a single isolated event.Retention can also consider as repurchase (Zineldin, 2006), which considered in relationship market (Fullerton,2005). Repurchase intent is defined as customer's decision to purchase or engage in the future activities with the sellers or the supplier (Hume, 2007).

Satisfaction

Satisfaction is defined as overall level of consumer pleasure and contentment from their experience with the service or particular product (Hellier, 2003).This study given the meaning of satisfaction as "the perceived level of contentment with regard to consumers' prior purchase experience with the product or service" (Anderson&Srinivasan,2003).Oliver(1997) defined satisfaction as a "Complete Customer Response". In fact, it's the outcome of the consumers' judgment regrading this issue that of which extent features of a service or a product are able to satisfy the customers' desirable expectation. The definition highlights the evaluating nature of satisfaction through it the consumer specifies whether a branded product meets the expectations of a customer or not. Kolter (2000) describes satisfaction as an individual's feelings and emotion of pleasure or disappointment from comparing the outcomes of purchasing in relation to his/her expectations. Satisfaction determines the customers' intentions to buy or not buy the product again in the future (Tsai, 2007)

Trust

Chow and Holden (1997) defined trust is existed when the customer know well that the company has ability to provide the product or service that meet the needed of customers. The trust is combined of three sub-concepts: competency means the ability to do something successfully or efficiently; benevolence means being friendly, generous, and considerate by follows moral and ethical principles, the last is institutional trust means the evaluation from customer in term of trustworthiness the vendor. Ganesan (1994) pointed out that sometime trust is conceived of having two components those are performance trust and benevolence trust. Moorman et al (1993) defined trust as experientially and logically a critical variable in relationships.

Positive attitude

Positive attitude is a personal's internal positive evaluation of a branded product, this is crucial concept in marketing. Macinnis (1997) defined positive attitude as "relatively global, lasting evaluation of an issue, object or action". There are two key reason for this long term relationship. First, similar to Macinnis (1997), positive attitude are mostly considered relatively stable in the lasting tendency for buyer to act particular way (Fishbein, 1997). So, consequently, positive attitude should be useful predictors for consumers' behaviour toward repurchase intention of a product or service (Oskamp, 1999). Second, several theoretical model of the positive attitude construct can be found in social psychology literature like the study of Fisbein (1975) that have stimulated positive attitudinal research in marketing.

Related Review Literature

Relationship between satisfaction and trust

Satisfaction of the customer will make customer trust in specific branded product (Ozanne, 1985). Overall buyer's satisfaction from the buying experience has an impact on individual trust of the product provider. There're widely confirmed from many authors that there're close relationship of satisfaction and trust

(Kenedy et al., 1999; Geyskens, 2001; Andaleeb, 2000). Customers will probable trust the product provider in the future if the results from their purchases are satisfied (Ganesan et al., 1994).

Relationship between satisfaction and positive attitude

Suh (2010) have examined customers' perception of quality of service from the sellers to understand the relationship of quality of service, positive attitude, customers' satisfaction and the associated usage of the online websites. The result is that there're a significant relationship and a positive relationship of positive attitude and customers' satisfaction, which means positive attitudes of the customers can be predict by buyers' satisfaction. Olsen (2010) describe that customers' satisfaction and prior attitude is influence on attitudinal loyalty of the customer.

Relationship between satisfaction and repurchase intention

A model that relate repurchase intention, behavior of repurchasing and satisfaction have developed by Triotsou (2006) and Seiders (2005).These two authors propose satisfaction of the customer has a very strong

influence on intention to by in the future. Satisfaction of the customer can have influence attitudinal change that in turn affect intention to repurchase (Stauss,1997; Oliver,1985;Innis,1991). Overall satisfaction of the customer has a direct relationship with the intention to repurchase again in the future can be found in several studies (Sullivan et al., 1993; Cronin et al., 1992; Fornell, 1992; Taylor,1994)

Relationship between trust and repurchase intention

Trust not just linked to repurchase intention but have an important role in linking in many outcomes (Klee et al., 1997).It also supported by Bart (2005) which his study find trust influence on customer intention to repurchase. Grefen (2003) peoples will not buy any products and services from the vendor that they don't trust even those vendor provide the products or services that they really need and difficult to find from other vender.

Relationship between positive attitude and repurchase intention

Customers who has a positive attitude toward the vender, they will likely to stick with their vendor that they has experience buying a product with (Sullivan et al., 1993).The statement also been supported by Arman (2001) which from his study found that positive attitude can influence on several variables such as trust, repurchase intention, positive word of mount. Building positive attitude to customer is one of the most important factor that let them have an intention to repurchase from their vendor even they found other vender provide a cheaper product (Salganik et a., 2006)

Relationship between core service quality and satisfaction

Core service quality and satisfaction has been examined by Suh (2010) which the result is that core service quality has a positive influence toward satisfaction. Which also supported by Parasuraman (1996) who found several sub variable of service quality that positively influence on satisfaction, such as price fairness, perceived ease to use and service quality. Gummesson (2004) states that core service quality will lead to customer satisfy with the product and closer the gap between expectation and actual outcome.

Relationship between core service quality and repurchase intention

According to Dixon et al. (2005), core service quality not just affecting on customer repurchase intention but also satisfaction and perceived value. From this researcher studied, core service quality has a moderate positive relationship to repurchase intention and other factor that has direct influence on repurchase intention such as satisfaction, perceived value. Sawan and Trawick (1981) state that a good service quality will make the customer believe that the vendor is very professional in the industry.

Relationship between social influence and online repurchase intention

According to Hofstede (1991), repurchase intention has many factors that influenced including social influence. When customers facing load of complicated amounts of information, they tend to follow other people rather than believe in their own judgment (Bonabeau et al., 2003). People tent to imply that popularity mean better product and better quality (Lin, 2011) which mean social has an influence on individual judgment that they believe that the reason why this specific product is popular because it has a better quality, which will lead to repeat purchase the product/service. Conceptual Framework

Conceptual Framework
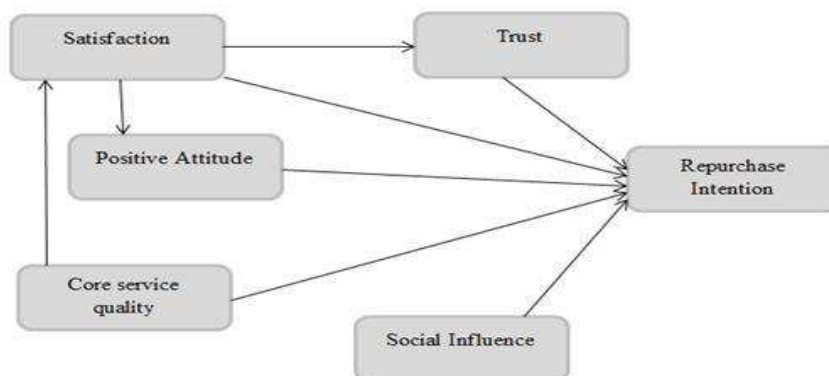
Research Hypotheses

According to the conceptual framework, eight hypotheses were developed to investigate the influences that affect customers' intention to repurchase iPhone:

H1o: There is no significant relationship between satisfaction and trust.

H1a: There is a significant relationship between satisfaction and trust.

H2o: There is no significant relationship between satisfaction and positive attitude. H2a: There is a significant relationship between satisfaction and positive attitude.

H3o: There is no significant relationship between satisfaction and repurchase intention. H3a: There is a significant relationship between satisfaction and repurchase intention.

H4o: There is no significant relationship between trust and repurchase intention.

H4a: There is a significant relationship between trust and repurchase intention.

H5o: There is no significant relationship between positive attitude and repurchase intention. H5a: There is a significant relationship between positive attitude and repurchase intention.

H6o: There is no significant relationship between core service quality and satisfaction. H6a: There is a significant relationship between core service quality and satisfaction.

H7o: There is no significant relationship between core service quality and repurchase intention.

H7a: There is a significant relationship between core service quality and repurchase intention

H8o: There is no significant relationship between social influence and repurchase intention. H8a: There is a significant relationship between social influence and repurchase intention

Methodology

The type of research in this study is descriptive research. Descriptive research is used to describe the population through the use of survey technique in distributing questionnaires to collect primary data for describing characteristics of population or a phenomenon. The descriptive research is to find out what and how the facts are, in order to look for the answers, including a method of research concentrating on characteristics and behavior of the population when they confront with different variables (Zikmund, 2003). The research is a study of all factors and relations which affect customer repurchase intention towards iPhone in Bangkok ,Thailand based on relationship between core service quality, satisfaction, trust, social influence, positive attitude and repurchase intention of an iPhone.

This research collecting data by research method which distribute questionnaire to crowed area where people work a lot including Silom, Sathorn, Sukhumvitand Asoke. This survey method is quick, inexpensive and efficient which can reach target group effectively. The survey research method in which information is collected from a sample of people using questionnaire (Zikmund, 2003).

Data Collection

Malhotra (2003) defined convenience sampling trying to obtain a sample of convenient elements, the researcher select the respondents because they are in the right place at the right time to gather information from people who are most conveniently available. The advantages of this type of sampling are the availability and the quickness with which data can be gathered. It's a quick appoch to know the respondents' information

(Hair et al., 2000), This sampling method was used to gather information from working people in Silom, Sathorn, Sukhumvit and Asoke area by focused on people who are available to answers questions from researchers. The researchers distributed questionnaires to 100 respondents equally to each working areas Silom, Sathorn, Sukhumvit and Asoke.

Findings

Summary of Hypothesis testing

Hypothesis	Correlation coefficient	Level of significance	Result
H1o: There is no significant relationshipbetween satisfaction and trust	.562**	.000	Rejected
H2o: There is no significant relationship betweensatisfaction and positive attitude.	.455**	.000	Rejected
H3o: There is no significant relationshipbetween satisfaction and repurchase intention.	.401**	.000	Rejected
H4o: There is no significant relationshipbetween trust and repurchase intention	.296**	.000	Rejected
H5o: There is no significant relationshipbetween positive attitude and repurchase intention	.634**	.000	Rejected
H6o: There is a no significant relationshipbetween core service quality and trust.	.455**	.000	Rejected
H7o: There is no significant relationshipbetween core service quality and repurchase intention.	.455**	.000	Rejected
H8o: There is no significant relationshipbetween social influence and repurchase intention.	.455**	.000	Rejected

Discussion and Implications

The finding from using Pearson Correlation Coefficient of all variable which are core service quality, satisfaction, positive attitude, trust, and social influence towards repurchase intention of iPhone (2 tailed test at 0.000) show that both independent and dependent variables has positive relationship.

The descriptive analysis shows majority of respondents are female and the age range is 31- 40 years old from crowed area of working people in Bangkok (Silom, Sathorn Sukhumvit and Asoke). The researcher focuses only crowed area of working people which has potential of buying an expensive smartphone. Most respondents' education level are Bachelor degree with 296 (74%), most of them work as private employee with 260 (65%) and most of them income level are higher than 40,000 baht a month with 245 (61.3%).

The result of hypothesis 1 that measure the relationship between satisfaction and trust is .562 at significant level of 0.000. Meaning that it has a moderate positive relationship between this 2 variables.

When Apple iPhone gain satisfaction of an iPhone from customer, they will also gain trust from them. Satisfaction of the customer will make customer trust in specific branded product (Ozanne, 1985). Overall buyer's satisfaction from the buying experience have an impact on individual trust of the product provider. There're widely confirm from many authors that there're close relationship of satisfaction and trust (Kenedy et al., 1999; Geyskens, 2001; Andaleeb, 2000). Customers will probable trust the product provider in the future if the result from their purchases are satisfied (Ganesan et al., 1994).

The result of hypothesis 2 that measure the relationship between satisfaction and positive attitude is .455 at significant level of 0.000. Meaning that it has a moderate positive relationship between this 2 variables.

When Apple iPhone gain satisfaction of an iPhone from customer, they will also gain positive attitude from them. Suh (2010) have examined customers' perception of quality of service from the sellers to understand the relationship of quality of service, positive attitude, customers' satisfaction and the associated usage of the online websites. The result is that there're a significant relationship and a positive relationship of positive attitude and customers' satisfaction, which means positive attitudes of the customers can be predict by buyers' satisfaction. Olsen (2010) describe that customers' satisfaction and prior attitude is influence on attitudinal loyalty of the customer.

The result of hypothesis 3 that measure the relationship between satisfactions and repurchase intention is .401 at significant level of 0.000. Meaning that it has a weak positive relationship between this 2 variables. When Apple iPhone gain satisfaction of an iPhone from customer, the customer will have an intention to repurchase the iPhone again in the future. A model that relate repurchase intention, behavior of repurchasing and satisfaction have developed by Triotsou (2006) and Seiders (2005).These two authors propose satisfaction of the customer has a very strong influence on intention to by in the future. Satisfaction of the customer can have influence attitudinal change that in turn affect intention to repurchase (Stauss,1997; Oliver,1985;Innis,1991). Overall satisfaction of the customer has a direct relationship with the intention to repurchase again in the future can be found in several studies (Sullivan et al., 1993; Cronin et al., 1992; Fornell, 1992; Taylor,1994)

The result of hypothesis 4 that measure the relationship between trust and repurchase intention is .296 at significant level of 0.000. Meaning that it has a weak positive relationship between this 2 variables.

When Apple iPhone gain trust of an iPhone from customer, the customer will have an intention to repurchase the iPhone again in the future. Trust not just linked to repurchase intention but have an important role in linking in many outcomes (Klee et al., 1997).It also supported by Bart (2005) which his study find trust influence on customer intention to repurchase. Grefen (2003) peoples will not buy any products andservices from the vendor that they don't trust even those vendor provide the products or services that they really need and difficult to find from other vender.

The result of hypothesis 5 that measure the relationship between positive attitudes and repurchase intention is .634 at significant level of 0.000. Meaning that it has a strong positive relationship between this 2 variables.

When Apple iPhone gain positive attitude of an iPhone from customer, the customer will have an intention to repurchase the iPhone again in the future. Customers who has a positive attitude toward the vender, they will likely to stick with their vendor that they has experience buying a product with (Sullivan et al., 1993).The statement also been supported by Arman (2001) which from his study found that positive attitude can influence on several variables such as trust, repurchase intention, positive word of mount. Building positive attitude to customer is one of the most important factor that let them have an intention to repurchase from their vendor even they found other vender provide a cheaper.

The result of hypothesis 6 that measure the relationship between core service quality and satisfaction is .437 at significant level of 0.000. Meaning that it has a moderate positive relationship between this 2 variables.

When Apple iPhone gain good perception about the service from the customer, the customer will satisfy. Core service quality and satisfaction has been examined by Suh (2010) which the result is that core service quality has a positive influence toward satisfaction. Which also supported by Parasuraman (1996) who found several sub variable of service quality that positively influence on satisfaction, such as price fairness, perceived ease to use and service quality. Gummesson (2004) state that core service quality will lead to customer satisfy with the product and closer the gap between expectation and actual outcome.

The result of hypothesis 7 that measure the relationship between core service quality and repurchase intention is .474 at significant level of 0.000. Meaning that it has a moderate positive relationship between this 2 variables.

When Apple iPhone gain When Apple co. gain good perception about the service from the customer, the customer will have an intention to repurchase the iPhone again in the future. According to Dixon et al. (2005), core service quality not just affecting on customer repurchase intention but also satisfaction and perceived value. From this researcher studied, core service quality has a moderate positive relationship to repurchase intention and other factors that has direct influence on repurchase intention such as satisfaction, perceived value. Sawan and Trawick (1981) state that a good service quality will make the customer believe that the vendor is very professional in the industry.

The result of hypothesis 8 that measure the relationship between social influence quality and repurchase intention is .437 at significant level of 0.000. Meaning that it has a moderate positive relationship between this 2 variables.

When social has an influence on customer, they tend to rebuy the new model of iPhone when it came out. According to Hofstede (1991), repurchase intention has many factors that influenced including social influence. When customers facing load of complicated amounts of information, they tend to follow other people rather than believe in their own judgment (Bonabeau et al., 2003). People tent to imply that popularity mean better product and better quality (Lin, 2011) which mean social has an influence on individual judgment that they believe that the reason why this specific product is popular because it has a better quality, which will lead to repeat purchase the product/service.

Conclusion

According to the result from previous chapter, all hypotheses 1-8 all of them have positive relationship. That mean all factors that been studied in this research have a significant effect toward the customerrepurchase intention of an iPhone. This study mainly focusing on factor that effect the repurchase intention of the customer, hypothesis 5 is the studied of a relationship between positive attitude and repurchase intention got the highest level of relationship of .634 which mean the most important factor that effect the repurchase intention of the customer is customers' attitude toward the product. In order to gain customers' positive attitude they must first gain satisfaction from customer, this is based on hypothesis 2, that showed the result that satisfaction has a moderate positive toward positive attitude of .455. All other that has a direct impact on repurchase intention are trust, satisfaction, core service quality and social influence which trust and satisfaction has a weak relationship toward repurchase intention while core service quality and social influence has a moderate relationship toward repurchase intention.

Recommendations

In this part, the researcher will have some recommended based on the data and the result that get from the questionnaire.

From the previous chapter, the hypothesis testing show that positive attitude is the most influence factor that effect the customer want to rebuy the iPhone again in the future, the question that ask the customer to mark the score of level of agreement showed that "iPhone are very enjoyable to buy" and "willing to rebuy iPhone again if I want a new cellphone" both scored the highest of 3.92. Apple co. should make the customer believe that the new iPhone that coming out is has some minor change and improvement from the previous model.

In order to gain positive attitude from customer, based on this studied framework satisfaction of the customer is the factor that Apple co. should focusing on, respondents mark "very pleased that I buy this iPhone" the highest, In order to make customer please about buying the iPhone the developer should keep the product to be as promise such as the new feature new design and other improvement.

Core service quality and social influence also has a direct impact based on this studied framework, social influence is an external factor that might be difficult to control but core service quality is internal factor that can be controlled by product provider, "The staffs of the store are very professional" is the statement on the questionnaire that the respondent mark the highest of 3.97. Customer who visit the shop are very delight about the knowledge of the staffs about the product they interested, Apple co. should maintain this strong point and also continues improving the service.

The last variables that also important is trust. "iPhone keep its promise to customer who buy it" is the highest score from trust, show that customer expect the product to be as promise, Apple co. should improving the new iPhone and whatever promise to customer, they should keep their promise.

Future study

This research study only some factors which believe to have an effect of customer repurchase intention of iPhone. However, there still many other factors that might have effect on customer repurchase intention of iPhone.

1.   The future research should examine other independent variables that might have an effect on customer repurchase intention of iPhone such as perceived ease of use, product feedback about performance.

2.   This studied focuses on respondents who had experiences owning iPhone only in Bangkok, Thailand in crowed working people are, however, in different country and different city, people might have different perception. Thus, Future research should focuses in other geographies areas.

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An Antecedence of Repurchase Intention towards TARAD.COM Online Shopping

Prakaymars Phornpromsri and Sirion Chaipoopirutana

Abstract

This research is a study on the relationship between price fairness, perceived ease of use, perceived usefulness, trust and satisfaction towards TARAD. COM Co., Ltd. The purpose in this research examines the effect on online shopping continues. In this study, the sample collected 400 working people. The sampling procedure used judgment sampling, quota sampling, and convenience sampling. The data collection was conducted at top four crowded areas with working people at MRT stations. Descriptive analyses method used to transform raw data which shown as standard deviation, mean, frequency or percentage. Besides, Inferential Analysis use to apply to test all hypothesis setting as Pearson correlation. Pearson correlation coefficient technique measure the strength of association between two variables through implied the correlation of two variables by itself. As a result, the independent variables include satisfaction; which has a strong positive relationship or effect on online shopping continues while perceived usefulness has weak relationship or effect on online shopping continues at TARAD.COM.

Price fairness; Perceived ease of use; Perceived usefulness; Trust; Satisfaction; Online shopping continues

Introduction

Online shopping market has been in continual growth not only in Bangkok, even though the greater value sales in Bangkok area accounts for more than half of the total market. There are many factors which support this continual growth in online shopping such as the operational systems of online-goods-purchase services, the increasing number of smartphone devices and tablet users, improved infrastructure for internet-based, trends of increasing the number of using credit and debit cards in Thailand and improve security through observation electronics transactions. Therefore, a more complete study of the motivations of customers under continue shopping online should be address issues related to fairness (Yen and Tsung, 2012). TARAD.COM is online shopping retailers that also serve for B2C group through to provide an insight into pioneer in online shopping business and developed the competitive ecommerce market of Thailand. Using knowledge of the success of Rakuten, TARAD.COM plan to expand business to establish new online shopping market in Thailand which is deemed to be another high potential business in online shopping business.

This study examines the effect on TARAD.COM online shopping continuance. Online shopping continues can measure their online shopping websites, which there contain with five factors such as the price fairness, trust, satisfaction, perceived ease of use for purchasing and perceived usefulness of products and service

Research Objectives

- To study the relationship between price fairness and satisfaction in online shopping continues.
- To study the relationship between perceived ease of use and trust in online shopping continues.

- To study the relationship between perceived ease of use and perceived of usefulness in online shopping continues.

- To study the relationship between perceived usefulness and satisfaction in online shopping continues.

- To study the relationship between perceived usefulness and online shopping continues.

- To study the relationship between trust and satisfaction in online shopping continues.

- To study the relationship between trust and online shopping continues.

- To study the relationship between satisfaction and online shopping continues.

Literature Review

Online shopping

Cho and Fiorito (2009, p.391) conceptualized online shopping as the online purchasing of products or services

Price fairness

Bolton (2003, p.474-91) defined as a judgment of reasonable, acceptable, or just price by judgments a comparison of pricing strategy with a relevant standard, reference, or norm.

Perceived ease of use

Davis (1989) defined the perceived ease of use that regard as the concentration both of physical and mental effort that a user expects to receive into using of technologies such as the degree to use a particular technological system by feeling free from effort.

Perceived usefulness

Monsuwe et al (2004, p.5) conceptualized the perceived of usefulness in term of e-commerce refer consumer perceptions who using internet for online shopping enhance their online.

Trust

Holden (1997) defined trust, as belief of customers who have confidence on his/her expectation of what the product provider will provide based on previous experience.

Satisfaction

Chen and Li (2009, p.5) conceptualized the satisfaction is the level to measure a consumer's happiness from their shopping experience or how they feel with internet retail experience in terms of comparison with traditional retail stores.

Online shopping continues

Koppius et al. (2005, p.5) referred to the online shopping continues as the intention to repurchase or desire to buy again from customer who had an online shopping experience.

Related Review Literature

Relationship between perceived ease of use and trust

Ramlah (2005) suggested that perceived ease of use is positively related with consumer behavior in online shopping intention and links to trust and perceived usefulness in online shopping repurchase context.

Relationship between perceived ease of use and perceived usefulness

Monsue (2004) stated that both perceived usefulness and perceived ease of use represent utilitarian motivation to attract customers to shop through the internet.

Relationship between perceived usefulness and satisfaction

Davis (1989) refered perceived usefulness as a basic factor towards information system acceptance. Bhattacherjee (2011), Koufaris (2002) and Wen (2011) showed that perceived usefulness towards a website is associated with customer satisfaction towards online shopping on websites.

Relationship between perceived usefulness and online shopping continues

Koufaris (2002) concluded that perceived usefulness predicts a consumer visiting in the future and intend to repurchase with products. Agarwal and Prasad (1997) which mean technology is equivalent to the success of the system will led "Online shopping continues".

Relationship between trust and satisfaction

Pavlou (2003), Yousafzai, Pallister and Foxall (2003), Gefen and Straub (2004), Wu and Cheng (2005), Favian and Guinaliy (2006) found that trust drives as a key factor to create satisfaction and expectation of outcomes in online business.

Relationship between trust and online shopping continues

Gefen (2003) refered to Technology Acceptance Model found that online shopping continues to be influenced by trust, which will be gained more after they repeat their online purchase from those websites.

Relationship between satisfaction and online shopping continues

Oliver (1980), Oliver and Swan (1989) found that satisfaction is associated with both directly and indirectly of intention to continue online shopping. Wen (2011) found that individual satisfaction has a relationship with repurchase intention by online shopping environments.

Relationship between price fairness and satisfaction

Parasuraman, Zeithaml, and Berry (1994) implied that price fairness should be an influence for satisfaction. Zeithaml (1988), Fornell (1992) stated that when a consumer decides to pay a higher price of product or service than others or a consumer receives a less quantity or quality, perceived negative price unfairness occurs.

Conceptual Framework
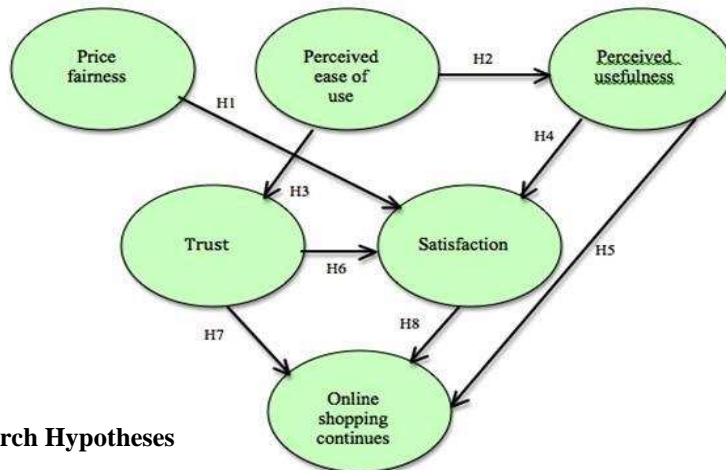
Research Hypotheses

H1: Price fairness has a relationship with satisfaction.

H2: Perceived ease of use has a relationship with trust.

H3: Perceived ease of use has a relationship with perceived usefulness.

H4: Perceived usefulness has a relationship with satisfaction.

H5: Perceived usefulness has a relationship with online shopping continues.

H6: Trust has a relationship with satisfaction.

H7: Trust has a relationship with online shopping continues.

H8: Satisfaction has a relationship with online shopping continues

Methodology

This study uses descriptive research to explain the population by survey technique and distributing questionnaires to gather primary data for describing the characteristics of population or a phenomenon. The descriptive research investigates what and how the truth is, looks for the answers, including a method of research concentrating on characteristics and behavior of the population when they face the different variables (Zikmund, 2003).

Data Collection

The targeted population of this research is the working people, who work in the crowded and do not have enough time to go to shops but are able to pay and also have experience of online shopping with TARAD.com from Sukhumvit, Silom, Paholyothin and Huai Khwang. The researcher design to collect the data should be rounded up to 400 for more accuracy and reliability collected 100 respondents for each area. The researcher marked a five point as Likert scale for questionnaire. The questionnaire contained three parts as screening questions, the questionnaire was based on independent five variables leading to online shopping continues, the questionnaire was based on online shopping and demographic factors such as gender, age, education, career and income.

Findings

The distribution variables of the sample indicated that the majority of respondents are equal to the number of respondents at 69.3 % of demographic female, aged between 31 to 40 years old with 44 %, education level of bachelor's degree at 75.3 %, career as private company employees of 68 % and the income per month between 20,001 – 30,000 of 61 %.

The result from hypothesis one, the researcher found that there is a relationship between price fairness and satisfaction at the 0.01 significant level. At 0.477, it means that there is a moderate positive relationship between and price fairness and satisfaction.

The result from hypothesis two, the researcher found that there is a relationship between perceived ease of use and perceived usefulness at the 0.01 significant level. At 0.597, it means that there is a moderate positive relationship between and perceived ease of use and perceived usefulness.

The result from hypothesis three, the researcher found that there is a relationship between perceived ease of use and trust at the 0.01 significant level. At 0.605, it shows that there is a moderate positive relationship between perceived ease of use and trust.

The results from hypothesis four, the researchers found that there is a relationship between perceived usefulness and satisfaction at 0.01 significance levels. At 0.400, it means that there is a weak relationship between perceived usefulness and satisfaction.

The results from hypothesis five, the researchers found that there is a relationship between perceived usefulness and online shopping continues at 0.01 significance levels. At 0.322, it means that there is a weak relationship between perceived usefulness and online shopping continues.

The result from hypothesis six, the researchers found that there is a relationship between trust and satisfaction at the 0.01 significance level; at 0.460, it means that there is a moderate positive relationship between trust and satisfaction.

The result from hypothesis seven, the researchers found that there is a relationship between trust and online shopping continues at 0.01 significance levels. At 0.431, it means that there is a moderate relationship between trust and online shopping continues.

The result from hypothesis eight, the researchers found that there is a relationship between satisfaction and online shopping continues at the 0.01 significance levels. At 0.641, it means that there is a strong relationship between satisfaction and online shopping continues.

Discussion

The results of hypothesis analysis testing, shows that most customers were female who chose at shop on TARAD.COM aged between 31 to 40 years old. Most of the customers had bachelor's degrees, private company employees and income between 20,001 – 30,000 baht per month .The research result found that eight hypotheses have a significant relationship between each other.

As a result from hypothesis one, if the customers gain high price fairness, they will also have more satisfaction from TARAD.COM; meanwhile, it is strongly supported by Zeithaml and Bitner (1996).

As a result from hypothesis two, if the customers get perceived usefulness and perceived ease of use in online shopping at TARAD.COM, they will continue shopping on TARAD.COM; meanwhile, it is strong supported by Davis (1989).

As a result from hypothesis three, if the customers understand the procedures to shop at TARAD.COM, the website also offers customization of products or services; meanwhile, it is strong supported by Chau (2007).

As a result from hypothesis four, if the customers get perceived usefulness in online shopping on TARAD.COM, they will also get satisfaction towards online shopping experience; meanwhile, it is strong supported by Bhattacherjee (2011), Koufaris (2002) and Wen (2001).

As a result from hypothesis five, if customers found that TARAD.COM is useful for them, they will intend to repurchase products in the future; meanwhile it is strong supported by Al-Maghrabi and Dennis (2010), Al-Maghrabi (2011) and Wen (2011).

As a result from hypothesis six, if customer perceived the greater trust with TARAD.COM, they will be satisfied with online shopping on website; meanwhile it is strong supported by Pavlou (2003), Yousafzai, Pallister and Foxall (2003), Gefen and Straub (2004), Wu and Cheng (2005), Favin and Guinaliy (2006).

As a result from hypothesis seven, the reliability of TARAD.COM has an influence on trust and purchase intention for online shopping; meanwhile it is strong supported by Jarvenpaa and Tractinsky (1999), Gefen and Straub (2004).

As a result from hypothesis eight, if customers are satisfied with TARAD.COM, they will still intend to shop on TARAD.COM; meanwhile it is strong supported by Oliver (1980), Oliver and Swan (1980).

Recommendation

Price fairness has affected with satisfaction. The researcher recommends that TARAD.COM should provide price fairness for its customers by considering setting a pricing policy related with customer satisfaction.

Perceived ease of use has affected perceived usefulness. The researcher recommends that TARAD.COM should provide a simple process which it makes an easy procedure in searching information of some products through flexibility to clarify and understand the interaction of the website.

Perceived ease of use has affect with trust. The researcher recommends that TARAD.COM should provide perceived ease of use for customers together with the product quality together with renovate the website under the shop with confidence.

Perceived usefulness has affect satisfaction. The researcher recommends that TARAD.COM should develop website pages and promote e-commerce business to perfection the international standard expose new look of TARAD.COM. The product categories of each lifestyle should also be divided for choosing product easily and update trendy all time through providing a team shop assistant.

Perceived usefulness has a weak relationship towards online shopping continues. The researcher recommends that TARAD.COM should enhance shopping online experience for customers.

customers by ensuring that the products and services on the website are safe for every transaction.

Trust has affect with online shopping continues. The researcher recommends that TARAD.COM should be trustworthy in terms of products and financial services.

Satisfaction has affect with online shopping continues. The researcher recommends that TARAD.COM would create pleasure and happiness for online shopping.

Furthermore, all variable factors proved to be related to others. So, TARAD.COM should continue improving their online service to increase the possibility that the customers will come back to visit their website regularly in the future.

Further Studies

This research examines the effects of online shopping towards TARAD.COM. The researcher proposes some factors to be investigated in the future as follows:

1. Further studies should survey different geographic areas for example; customers in department store areas have different attitudes and behaviors from shopping between online and department stores.

2. Further studies should determine individual attributes in terms of lifestyle and preference which affect customer satisfaction toward online shopping of TARAD.COM experience to the group of people who have used TARAD.COM.

3. Further studies should emphasize the influence of trust has effect on online shopping and focus on the attributes of trust, such as honesty, consistency and loyalty ,which refer to customer intent and willingness to shop in the future.

4. Future studies should also study customer satisfaction by comparing TARAD.COM and LAZADA, as they are popular e-commerce sites in Thailand, in order to examine: the weak points that have to be improved in business.

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Competitive Benchmarking Of Hotels' Service Quality Using Analytic Hierarchy Process

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Abstract

In the wake of increasing competition, a growing number of hotels have begun to realize the importance of service improvements that can be converted to a competitive advantage. One way in which hotel managements may innovate and learn, as they respond to their competitive environment, is by means of benchmarking. Current practice in hotel benchmarking involves gauging guests' satisfaction and perception through either guests comment cards or reports from the hotels' guest satisfaction studies conducted by an outside firm. These approaches unfortunately do not measure the hotel's performance against that of competing hotels. Thus, in this study, we proposed the use of Analytic Hierarchy Process to comparatively benchmark any hotel against its competitors. We applied the technique to comparatively rank eight hotels along the Batu Feringghi and Tanjung Bungah beach areas in Penang, Malaysia. The hotels were ranked based on four key main attributes namely, the hotel, the front-office personnel, other than the front-office personnel, and the room values. Four members were asked to check in at all the hotels for two nights each and do pairwise comparison evaluations on all the attributes and sub-attributes as well as pairwise comparison evaluations on the hotels with regards to each attribute and sub-attribute. The results obtained from the comparison processes were the rankings or the relative standings of each hotel compared to the other hotels with regards to each attribute, sub-attribute and the combination of all the attributes and sub-attributes. The output from this study provides a useful framework for operationalizing the level of competition in the hotel industry in the sense that the output helps the hotel manager to determine where the hotel stands on service performance relative to its competitors and, consequently, identify specific areas of comparative advantages and disadvantages.

Keywords: Guest satisfaction; Analytic hierarchy process; competitive benchmarking; service performance; hotel performance

1. Introduction

In today's hospitality environment, the true measure of company success lies in an organization's ability to continuously satisfy customers. Increasingly customers are demanding value for money in terms of both price and the quality of product or service being offered (Zeithaml et al., 1993). In order to ensure market success, hospitality organizations of all types are being forced to stand back and take a long, hard look at the way they are currently doing business. The Malaysia's hotel industry is no exception to this rule.

Over the last few years, the Malaysia's hotel industry has grown steadily thanks to the 1998

Commonwealth Games, the booming economy, and government initiatives in promoting the Visit Malaysia 2007 and 2014 campaigns. As the Malaysia's hotel industry continues to thrive, it has resulted in over-construction of hotels, and rivalry among hotels subsequently has increased. In the wake of increasing competition, a growing number of hotels have begun to realize the importance of service improvements that can be converted to a competitive advantage. One way in which hotel managements may innovate and identify the areas for improvements, as they respond to their competitive environment, is by means of benchmarking (Saleh and Ryan, 1991).

Benchmarking as a strategic planning management tool was first developed by the Japanese (Ohno, 1988) and Rank Xerox pioneered the tool in the Western world in 1979 (Bresada, 1991). David T. Kerans, chief executive officer for Xerox Corporation defined benchmarking as "the continuous process of measuring products, services, and practices against the toughest competitors or those companies recognized as industry leaders" (Phillips and Appiah-Adu, 1998). Benchmarking has become a part of the business exercise and the three basic types of benchmarking currently utilized are internal, functional and competitive benchmarking (Yasin and Zimmerer, 1995).

Competitive benchmarking in the hotel industry may involve both customer and competitor benchmarking exercises (Jennings and Westfall, 1992). Customer benchmarking is where the hotel's products or services are compared against customer needs and expectations while in competitor benchmarking, the performance of the competition is assessed to guide strategic action planning. According to Low Gee Tat, managing director of Capitol Hotel, although all hotels are offering almost the same kind of package, other aspects can give a hotel the edge (Utusan Malaysia, 4 May 1998). Customers' expectations and needs for services have substantially increased (Lockwood, 1995; Lee et al., 2000) and customers will search for services that offer the best value for their money ((Lee et al., 2000).

2. Analytic Hierarchy Process

AHP is a scoring method that was designed and introduced by Saaty in 1977 (in Saaty, 1999) to visually structure a complex decision-making problem involving multiple attributes and sub-attributes into a simple hierarchy and then develop priorities in each level of the hierarchy by carrying out pair-wise comparisons of the relative importance of decision criteria, attributes and alternatives. Since its invention, AHP has been a tool at the hands of decision makers and researchers; and it is one of the most widely used multiple criteria decision-making tools. Many outstanding works have been published based on AHP. They include applications of AHP in planning (Arbel and Orger, 1990; Raju and Pillai, 1999), selecting the best alternative (Ferrari, 2003; Ngai, 2003), resource allocations (Ramanathan and Ganesh, 1995; Saaty, 2003), resolving conflict (Saaty, 1983), optimization (Greenberg and Nunamaker, 1994), etc.

The basic procedure to carry out the AHP consists of the following steps (Saaty, 1999):

1. Structuring a decision problem, listing of decision alternatives, and selection of criteria.
2. Priority setting of the criteria and sub-criteria by pairwise comparison (weighing).
3. Pairwise comparison of decision alternatives on each criterion and sub-criterion (scoring).
4. Checking for consistency in every pairwise comparison exercise.
5. Obtaining an overall relative score for each option.

Through the use of hierarchic frameworks, AHP can combine both quantitative factors having different scales and qualitative factors that have bearing on the decision. As such, the use of AHP is appropriate for competitive benchmarking of hotels which involves the evaluation of both quantitative (e.g. size, price, service time) and qualitative attributes (e.g. cleanliness, comfort, employee courtesy) affecting the overall service quality of hotels. Furthermore, AHP can provide the ranking order of hotels in terms of their overall service quality as well as their relative standings measured on a numerical scale. In addition, AHP also allows hotel managers to investigate the sensitivity of the ranking of hotels due to changes in the level of importance of service attributes.

3. The competitive benchmarking

The importance of service quality to business performance has been established both in hospitality (Bowen and Shoemaker, 1998; Pizam and Ellis, 1999) and in a broader business context (Antony et al., 2004; Bloemer, 1998; Zeithaml *et al.*, 1996), and it is generally accepted that service quality is antecedent to customer satisfaction (Caruana, 2002; Bolton and Drew, 1991; Parasuraman and Berry, 1991) and that customer satisfaction is antecedent to customer loyalty (Buttle, 1996; Caruana, 2002). There has been an increase in research on service quality measurement in the hotel industry due the recognition of SERVQUAL (Parasuraman et al., 1985) and some other hotel service quality measurement such as LODGSERV (Knutson et al., 1991), and HOLSERV (Wong Oii Mei et al., 1999). Some of the studies are by Borkar amd Koranne (2014), Ryglova et al. (2013), Abukhalifeh and Mat Som (2012), Sarangarajan and Tamilenthi (2012), Murasiranwa et al. (2010), Markovic and Raspor (2010), Cristea (2009), Grzinic (2007), Akbaba (2005), McCaina and Shiang-Lih (2005), Lun and Allan (2004), Raymond and Choi (2001), Ekinci and Riley (1998), Jones (1997), Ropeter and Kleiner (1997), Armstrong et al. (1997), Min and Min (1996a), Baldacchino (1995), Akan (1995),and Lewis (1987). However, among those, we found only three studies on comparative benchmarking and two studies sparked our interest to conduct a similar study.

In the first study, Ropeter and Kleiner (1997) compared three American hotels, namely, Hilton, Sheraton and Marriots based on eight basic principles outlined by Peters and Waterman in "In Search of Excellence" regarding what companies should do and follow in order to achieve superior quality in their company over their competition. Those eight principles are: (1) A bias for action, (2) Staying close to the customer, (3) autonomy and entrepreneurship, (4) productivity through people, (5) hands-on, value driven, (6) sticking to the knitting, (7) simple form, lean staff, and (8) simultaneous loose-tight properties.

The second study was by Akan (1995) who studied the importance of service attributes for both four and five star hotels in Istanbul. Respondents were asked to state the level of satisfaction with respect to each service attributes based on a Likert scale. The attributes were grouped in three main categories which are the hotel, the personnel and the service process. Each main category is divided further into sub-categories as shown in Table 1.

Table 1: Main hotel service attributes and their sub attributes utilized by Akan (1995)

Main Category	Sub Category
The hotel	exterior appearance, interior appearance, furniture, ease of access, name/image, and products offered for use (soap, shampoo, sheets and towels).
The personnel	knowledge and training, experience, physical appearance, understanding, friendliness, respect, and speaks well.
The service process	accuracy of reservations, accuracy of food orders, accuracy in billing, prompt service, information about hotel services, advance information about prices, anticipating customers' needs, recognizing the customer, calling the customer by name, giving special attention to the customer, listening to and understanding the customer, giving information that is easy to understand, speed of transactions, ease of access to the personnel, listening to complaints, solving problems and offering the service the way customer wants.

The third study was by Min and Min (1996b) who listed two sets of criteria, namely the room values and the front-office service, as the benchmarking criteria for six of South Korea's luxury hotels. A total of seven attributes were chosen to represent room values. They are cleanliness, atmosphere, comfort, fixture, size, price, and complimentary items. Meanwhile for the front-office service criterion, seven

attributes were identified. Those attributes are courtesy, reservation, complaint, promptness, sports facility, business center, and guide. AHP was used to rank the hotels with respect to each service attributes.

Some of the attributes used by the three studies above are consistent with the attributes that guests find important when evaluating the performance service quality. Some of those qualities are cleanliness, security and safety, employees' empathy and competence, convenient location, value for money, and physical facilities (Atkinson, 1988; Gundersen et al., 1966; Choi and Chu, 2001).

4. Our approach

According to Yasin and Zimmerer (1995), benchmarking process can be implemented by following a series of these sequential and logical stages:

1. Think – identify what is to be benchmarked.

2. Act – form the benchmarking team or teams, identify benchmarking patterns and collect benchmarking data.

3. Evaluate – analyse the data and determine performance gaps.

4. Plan – develop and implement plans.

5. Look ahead – achieve benchmark goals and think continuous improvement.

Our study consisted 3 phases which are consistent with the first three stages as suggested by Yasin and

Zimmerer (1995) above. The three phases are:

Phase 1: The selection of hotels to be evaluated

Eight hotels along the Batu Feringghi and Tanjung Bungah beach areas in Penang, Malaysia, were chosen based on their location, which is next to the beach and their star ratings, which are four and five stars. To protect the identity and the reputation of the hotels we simply referred the hotels as Hotel 1, Hotel 2, Hotel 3, Hotel 4, Hotel 5, Hotel 6, Hotel 7, and Hotel 8 respectively.

Phase 2: The identification of hotels' service quality attributes and the determination of the number of evaluators

Four evaluators consisting of one evaluator who frequently travels and stays at luxury hotels, one evaluator who frequently travels but does not necessarily stay at luxury hotels, one young evaluator who does not have much experience staying in a hotel, and one evaluator who happens to be an expert in hotel management were chosen to conduct the pairwise comparisons. Although the number of evaluators is small, we believed that the four evaluators were enough to provide the intended evaluation results. Afterall, in reality, positive word of mouth would influence other potential guests (Reichheld and Sasser, 1990) and "It only takes one bad experience to turn a customer off, but several good ones to make him happy. Indeed, a dissatisfied customer will tell ten people, compared to a happy customer telling only three" (Ropeter andKleiner, 1997).

Based on previous studies by other researchers (Akan, 1995; Min and Min, 1996b; Ropeter and Kleiner, 1997) and discussion between the three researchers who also acted as three of the four evaluators, we grouped the service quality attributes into four categories. They are:

1. C1: Hotel

2. C2: Front office personnel

3. C3: Other than front office personnel

4. C4: Room values

Under each category, we also identified several sub-attributes that we felt suitable for evaluation. We summarized the sub-attributes in Table 2 below.

Table 2: The main attributes and sub-attributes to evaluate

Main Attributes	C1: Hotel	C2: Front office personnel	C3: Other than front office personnel	C4: Room values
Sub-Attributes	C11: Exterior appearance	C21: Courtesy	C31: Knowledgeable	C41: Cleanliness
	C12: Interior appearance	C22: Reservation	C32: Physical appearance	C42: Atmosphere
	C13: Furniture	C23: Promptness	C33: Understanding	C43: Comfort
	C14: Ease of access	C24: Calling customer by	C34: Friendliness	C44: Fixture
	C15: Name or image	name	C35: Respect	C45: Size
	C16: Facilities (parking,	C25: Physical appearance	C36: Speaks well	C46: Room rate
	swimming pool,			C47: Complimentary items
	spa, gym, etc.)			
	spa, gym, etc.)			
	C17: Beach facilities			
	C18: Buffet breakfast			

Phase 3: The application of AHP

Step 1: To begin the evaluation process, each evaluator determined the importance of each main attribute in determining the comparative benchmarking of the hotels by making a pair-wise comparison of the attributes based on a scale of 1 to 9 as follows:

Table 3: Preference scale for AHP pair-wise comparisons

Preference Level	Numeric Value
Equally preferred	1
Equally to moderately preferred	2
Moderately preferred	3
Moderately to strongly preferred	4
Strongly preferred	5
Strongly to very strongly preferred	6
Very strongly preferred	7
Very strongly to extremely preferred	8
Extremely preferred	9

To illustrate, we show in Table 4 below the pairwise evaluation comparison by evaluator 1.

Table 4: Pairwise comparison matrix for main attributes (Evaluator 1)

	C1	C2	C3	C4
C1	-	3*	5	½
C2	1/3	-	2	¼**
C3	1/5	2	-	1/5
C4	2	4	5	-

The value 3 (noted with *) simply means that Evaluator 1 moderately preferred C1 over C2 while the value ¼ (noted with **) means that Evaluator 1 moderately to strongly preferred C4 over C1.

Next, the evaluator determined the weight of each sub-attribute under each main attribute using the sameapproach. Once again, we illustrate in Table 5 the pairwise comparison matrix by evaluator 1 for the sub-attributes under the main attribute, C2: The front office personnel.

Table 5: Pairwise comparison matrix for the sub-attributes under C2 (Evaluator 1)

	C21	C22	C23	C24	C25
C21	-	3	1	5	4
C22	1/3	-	1/3	3	2
C23	1	3	-	5	4
C24	1/5	1/3	1/5	-	1/2
C25	¼	½	1/4	2	-

Step 2: To evaluate the hotels based on the main attributes and the sub-attributes, each evaluator spent two nights at each hotel to experience the service rendered by the hotel. Each service experience was made up of a series of individual evaluator discrete service encounters during which the evaluator made these evaluations. Each evaluator set his/her own dates to visit all the hotels (i.e. the four evaluators did not go to the hotels together). At the same time, the hotels were also not aware of the purpose of their visits, thus eliminating any bias judgments. The same pairwise comparisons were utilized by the evaluators to get the weights for each hotel with respect to the main attributes and the sub-attributes. Table 6 shows the evaluation done by Evaluator 1 on the hotels with regard to sub-attribute C21: Courtesy.

Table 6: Evaluator 1's Hotel pair-wise comparison under sub-attribute C21: Courtesy

	Hotel 1	Hotel 2	Hotel 3	Hotel 4	Hotel 5	Hotel 6	Hotel 7	Hotel 8
Hotel 1	-	1	1/3	1	1/2	1/2	4	3
Hotel 2	1	-	1/3	1	1/2	2	5	4
Hotel 3	3	3	-	3	2	4	7	6
Hotel 4	1	1	1/3	-	1/2	2	5	4
Hotel 5	2	2	½	2	-	3	6	5
Hotel 6	2	½	¼	½	1/3	-	4	3
Hotel 7	¼	1/5	1/7	1/5	1/6	¼	-	1/2
Hotel 8	1/3	1/4	1/6	1/4	1/5	1/3	2	-

The weights and the scores in Phase 1 and 2 were calculated with the help of AHP- software called *ExpertChoice*. To complete the process, all comparison matrices in Step 1 and Step 2 were tested for theirconsistencies. Once again, with the help of *Expert Choice*, we found that all comparisons were consistent with all the consistency values to be less than 0.1 which is the maximum consistency ratio set by

Saaty to justify consistent pairwise comparison. Please refer to Taylor (2010) for the explanation on the consistency test.

Step 3: Finally, the two sets of weights obtained from Step 1 and Step 2 were combined to obtain the final score for each hotel with respect to each service quality attribute and with respect to each category. Table 7 shows the result for the ranking along with the weight obtained by the hotels based on the evaluations by Evaluator 1 for the main attribute C2: The front office personnel.

Table 7: Ranking of hotels under C2 by Evaluator 1

Hotel	Weight	Rank
1	0.062	7
2	0.062	7
3	0.310	1
4	0.132	3
5	0.208	2
6	0.075	4
7	0.075	4
8	0.075	4

Step 4: To get the cumulative score for the hotels, the scores from each evaluator were averaged out. Although Saaty suggested that geometric mean should be used, here we only used arithmetic mean due to the small number of evaluators.

5. Selected results

In this section, some of several important results based on the evaluation done by all the evaluators are given. Overall, combining all the main attributes and the sub-attributes, the evaluation done by all the evaluators, results in Hotel 4 being the best, followed closely by Hotel 5 with an average score of 0.229 and 0.196 respectively. Hotel 8 receives the lowest mean score which is 0.067, losing very narrowly to Hotel 7 by 0.001. Table 8 below gives the score for the eight hotels evaluated.

Table 8: Overall ranking of hotels by all evaluators

	Hotel	H1	H2	H3	H4	H5	H6	H7	H8
E1	Weight	0.192	0.085	0.136	0.156	0.187	0.091	0.084	0.069
	Rank	1	6	4	3	2	5	7	8
	Hotel	H1	H2	H3	H4	H5	H6	H7	H8
E2	Weight	0.139	0.133	0.111	0.182	0.146	0.103	0.078	0.107
	Rank	3	4	5	1	2	7	8	6
	Hotel	H1	H2	H3	H4	H5	H6	H7	H8
E3	Weight	0.145	0.054	0.088	0.239	0.239	0.145	0.054	0.035
	Rank	3	6	5	1	1	3	6	8
	Hotel	H1	H2	H3	H4	H5	H6	H7	H8
E4	Weight	0.143	0.084	0.137	0.189	0.212	0.124	0.057	0.055
	Rank	3	6	4	2	1	5	7	8
Mean	Hotel	H1	H2	H3	H4	H5	H6	H7	H8

Weight	0.155	0.089	0.118	0.229	0.196	0.116	0.068	0.067
Rank	3	6	3	1	2	3	7	8

The final scores above were obtained using the combination of weights for the main attributes and the sub-attributes as listed the Table 9 below.

Table 9: Weights used for main attributes and sub-attributes

Main Attribute	C1	C2	C3	C4	-	-	-	-
Weight	0.318	0.122	0.073	0.487	-	-	-	-
Sub Attribute under C1	C11	C12	C13	C14	C15	C16	C17	C18
Weight	0.047	0.081	0.047	0.047	0.197	0.302	0.081	0.197
Sub Attribute under C2	C21	C22	C23	C24	C25	-	-	-
Weight	0.354	0.145	0.354	0.058	0.090	-	-	-
Sub Attribute under C3	C31	C32	C33	C34	C35	C36	-	-
Weight	0.190	0.048	0.190	0.190	0.190	0.190	-	-
Sub Attribute under C4	C41	C42	C43	C44	C45	C46	C47	-
Weight	0.244	0.085	0.244	0.062	0.040	0.244	0.080	-

Finally, the hotel rankings with regards to each individual main attribute are given in Table 10.

Table 10: The hotel scores and rankings for each main attribute

C1: The Hotel								
Hotel	H1	H2	H3	H4	H5	H6	H7	H8
Score	0.174	0.078	0.082	0.200	0.211	0.111	0.083	0.062
Rank		7	5	2	1	4	5	8

C2: Personnel – The Front Office								
Hotel	H1	H2	H3	H4	H5	H6	H7	H8
Score	0.093	0.123	0.282	0.097	0.206	0.116	0.044	0.038
Rank	6	3	1	5	2	4	7	8

C3: Personnel – Other Than The Front Office								
Hotel	H1	H2	H3	H4	H5	H6	H7	H8
Score	0.107	0.160	0.197	0.158	0.103	0.075	0.140	0.060
Rank	5	2	1	3	6	7	4	8

C4: Room Values								
Hotel	H1	H2	H3	H4	H5	H6	H7	H8
Score	0.244	0.068	0.132	0.137	0.180	0.074	0.083	0.083
Rank	1	8	4	3	2	7	5	5

6. Discussion and conclusion

In this study, AHP was used to comparatively rank eight hotels along the Batu Feringghi and Tanjung Bungah beach areas in Penang, Malaysia, that were chosen based on their location, which is next to the beach and their star ratings, which are four and five stars. The hotels were ranked based on four key attributes namely the hotel, the front-office personnel, other than the front-office personnel, and the room values.

Based on the mean value of scores obtained from all the evaluators, we can conclude that from their perspective, Hotel 1 is the best while Hotel 8 is the worst. It is important to note here that all these hotels are good, but comparatively Hotel 1 performs the best. However, if we look at the score for Hotel 1 under each main attribute, Hotel 1 is ranked third under C1, sixth under C2, fifth under C3, and first with respect to C4. Thus, although Hotel 1 is ranked first overall, it still has some improvement to make with regards to main attributes C1, C2, and C3 while simultaneously maintaining its first ranking under C4. On the other hand, Hotel 8, which came in the last position overall, is also ranked last with respect to three main attributes, namely, C1, C2, and C3. Hotel 8 came in fifth under C5. Therefore, the hotel management has to work very hard in almost all aspects in order to remain competitive.

This study is by no means perfect. Firstly, it involves only four evaluators thus making the overall results slightly biased. Increasing the number of evaluators is therefore suggested for the future study. Secondly, we were not able to include all the relevant attributes since we wanted to make this study manageable. For example, we did not include some important attributes which were suggested by Weaver and McCleary (1991). The attributes were safety and security, free newspapers, and cable TV, among others.

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A study of repurchase intention in the context of organic food in Bangkok, Thailand

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Abstract

The purpose of this paper is to investigate consumer's repurchase intention concerning organic food in Bangkok, Thailand. The self-administered questionnaires were distributed among 480 respondents in supermarkets known to carry organic food in central Bangkok, Thailand. The collected data were processed using statistical analysis software. A descriptive and an inferential analysis were applied to analyse the primary data. The results indicated that all variables tested by Pearson Correlation Coefficient have positive correlation with consumer repurchase intention concerning organic food. Among these variables, subjective norms showed the highest correlation with repurchase intention. The other variables were tested using Multiple Linear Regression Analysis (MLR). The result showed that ways of shopping is the most influential factors determining repurchase intention, followed by quality aspects, purchasing motives, and cooking methods, respectively, while consumption situations do not influence repurchase intention concerning organic food.

Keywords:Repurchase intention; organic food; consumer behaviour; Thailand

1. Introduction

Until recently, purchasing organic food required a trip to a specialty store or a natural foods outlet. As interest in organics is growing rapidly, organic food has now become widely available in conventional grocery stores in many developed and emerging countries. Today, consumers can find a large selection of organic products in various types of supermarket chains. Major retailers have started to expand their organic selection and many conventional retailers now dominate organic retailers for their share of organic food sales. As a result, organic food producers and vendors have come to realise that their businesses are getting closer to mainstream (Torres, 2006). As competition and costs of attracting potential customers increase, keeping the existing customers or making them repurchase the products seems to be the most cost-effective approach for organic food businesses. They soon learned that the easiest way to get more customers is not to lose them (Marketing Wizdom, 2013)**.** That is why customer retention has been appreciated as a key to business success and the essential element of competitive advantage for their businesses and industry (Cronin*et al.*, 2000). However, keeping customers can be challenging, which is why businesses must know the reason their customers keep buying the same products. According to Ajzen (1991), consumer repurchase intention is a useful predictor of repeat purchase behaviour. In using repurchase intention to anticipate the actual purchase of organic food, it is critical for academic researchers and marketers to understand the significant factors or determinants of repurchase intention. As Thailand's domestic market and interest for organic food continue to grow, the researcher is highly interested in conducting a research on repurchase intention towards organic food among Thai consumers. However, only a few studies concerning organic food repurchase intention have been conducted in Thailand. Therefore, the researcher is interested in studying this topic and the main study's objective is to investigate the variables that may have an impact on customer repurchase intention concerning organic food. The study focuses on Thai adults aged twenty years old and above who used to purchase organic food products. The independent variables focused in this research include knowledge and education, environmental attitudes, attitudes towards organic food, perceived behavioural control, subject norms, perceived value and food-related lifestyles in terms of ways of shopping, cooking methods, quality aspects, consumption situation, and purchasing motives.

1.1. Repurchase intention

Ajzen (1991) indicated that intention is the best predictor of behaviour. According to Hellier *et al*. (2003), repurchase intention refers to the subjective probability associated with intention that consumer will continue to purchase the products in the future. Similarly, Zeithaml *et al*. (1988) described repurchase intention as the judgment of an individual about purchasing a product or service again.

1.2. Knowledge and education

The idea of consumer knowledge can be seen as the scope of experience and understanding that consumers have of a product before they undertake an external search (Alba and Hutchison, 1987), and knowledge can be received through education (Rahman, 2013). von Alvesleben (1997) indicated the importance of organic food knowledge and information as the only tool that consumers use to differentiate organic food product attributes from the conventionalones.

1.3. Environmental attitudes

Milfont (2007) defined environmental attitudes as a psychological tendency expressed by evaluating ideas or beliefs concerning the natural environment, with some degree of favour or disfavour. Grunert and Juhl (1995) indicated that positive attitudestowards environmental issues are positively related to organic food purchases and the frequency of purchase. Fraj and Martinez (2007) conducted a study which focused on environmental attitudes as important predictors of environmental behaviour. Regarding their study, environmental attitudes proved to have a significant impact on environmental behaviours such as purchasing organic products.

1.4. Attitudes towards organic food

Various definitions of attitude have been given in previous research. However, most researchers generally refer to attitude as an individual's favour or disfavour of a certain attitude object. According to Blackwell *et al*. (2006), attitude refers to the evaluation of performing a certain behaviour concerning the attitude object. Previous studies indicated that positive attitudes towards organic food attributes such as taste, texture and freshness positively influence organic food consumption (Al -Swidi *et al*., 2014; Aryal *et al*. 2009; de Magistris and Gracia, 2008; Chen, 2007).

1.5. Perceived behavioural control

Perceived behavioural control refers to the individuals' beliefs about their capabilities to engage in a given behaviour (Ajzen, 1991). It is usually formed by perceived barriers (such as price and availability) and perceived abilities (such as financial resources) that determine organic food purchasing behaviour (Thøgersen, 2009). Regarding perceived abilities, several previous studies have applied income or financial resources as important determinants of willingness to purchase organic foods (Riefer and Hamm, 2008; Gracia and de Magistris, 2007; Zepeda and Li, 2007).

1.6. Subjective norms

According to Ajzen (1991), subjective norms concern the perceived social influence to comply with expectations regarding the performance of a particular behaviour which should determine the intention of an individual to perform (or not to perform) the behaviour. Theory of needs given by McClelland (1987) indicated that individuals are more likely to reveal a behaviour that is appreciated and respected by their reference groups,

as they pursue relationships and group associations. In this case, if purchasing organic food is viewed as a socially desirable behaviour, then, the person is more likely to purchase organic food. Based on previous research, organic food can be perceived as socially desirable in the way that organic food products are more tasteful, better quality, and fresher than conventionally alternative foods (Shaharudin *et al.*, 2010; Lea and Worsley, 2005; Baker *et al.*, 2004).

1.7. Perceived value

Zeithaml (1988) described perceived value as the consumer's overall assessment and evaluation of the utility of a product or service based on perceptions of what is obtained and what is given. Previous studies suggested consumer's repurchase intention relies on the value obtained in their previous purchases (Kaynak, 2003; Wathne *et al.*, 2001; Bolton *et al.*, 2000). If a previous transaction provided ahigh level of value, customer would return and repurchase the product infuture (Lee *et al.*, 2011). Many previous study results revealed positive value perceptions towards organic food products such as more freshness, superior quality, better in taste etc. compared to conventional foods (Shaharudin *et al.*, 2010; Lea and Worsley, 2005; Baker *et al.*, 2004)

1.8. Food-related lifestyles

The concept of "food-related lifestyles" (FRL) was formed in mid-1990s as segmentation tool, which is adapted to the consumer's role as a food shopper. Grunert *et al* (1996) described food-related lifestyles as the means of using food consumption to achieve personal life values. The FRL instrument is used to measure consumer attitudes and behaviours regarding the purchase, preparation, and consumption of food products (Bredahl and Grunert, 1998). According to Ryan *et al.* (2004), a total of 69 items of FRL instrument is segmented into 23 FRL dimensions, and the following five distinguished domains: ways of shopping, cooking methods, quality aspects, consumption situations, and purchasing motives.

2. Hypotheses development

Based on several previous studies, there are many independent variables that have impacts on repurchase intention concerning organic food. Chong *et al.* (2013) implied that knowledge and education are the strongest predictors of repurchase intention. Knowledge is perceived by consumers as the only tool that they use to differentiate organic food product attributes from the conventionalones (von Alvesleben, 1997). Besides knowledge and education, attitudes are widely used by researchers in studying consumer's repurchase intention (Lee and Goudea, 2014; Balla and Ibrahim, 2012; Kaveh, 2012). In the context of organic food, attitudes towards the environment and towards organic food are proved to be the most influential factors explaining repurchase intention (de Magistris and Gracia, 2008). In the theory of planned behaviour, perceived behavioural control and subjective norms are often applied as independent variables of behavioural intention, such as repurchase intention. Al-Swidi et al. (2014) applied perceived behavioural control and subjective norms to study online organic food purchase intention. Their study results indicated these two factors significantly affect online purchase intention towards organic food. Another important independent variable of repurchase intention is the consumer's perception of the product's value. Previous researches stated that consumer's repurchase intention relies on the value obtained in their previous purchases (Olaru *et al.*, 2008; Kaynak, 2003; Wathne et al., 2001; Bolton et al., 2000). Hume (2008) concluded that perceivedvalue is the most important predictor of repurchase intention. Finally, repurchase intention is claimed to be influenced by consumers' lifestyles. According to Engel *et al.* (1988), lifestyles are influential external factors in the consumer's buying behaviour. Many previous studies demonstrated that the willingness to purchase organic food is influenced by lifestyle (Chryssohoidis and Krystallis, 2005; Sanjuaˊn et al., 2003; Gil *et al.*, 2000). This study proposes the following hypotheses:

H1: There is a statistically significant relationship between knowledge and education, and repurchase intention concerning organic food.

H2: There is a statistically significant relationship between environmental attitudes, and repurchase intention concerning organic food.

H3: There is a statistically significant relationship between attitudes towards organic food, and repurchase intention concerning organic food.

H4: There is a statistically significant relationship between perceived behavioural control, and repurchase intention concerning organic food.

H5: There is a statistically significant relationship between subjective norms, and repurchase intention concerning organic food.

H6: There is a statistically significant relationship between perceived value, and repurchase intention concerning organic food.

H7: Food-related lifestyles in terms of ways of shopping, cooking methods, quality aspects, purchasing motives, and consumption situations have influence on repurchase intention concerning organic food.

Figure 1. Conceptual Framework
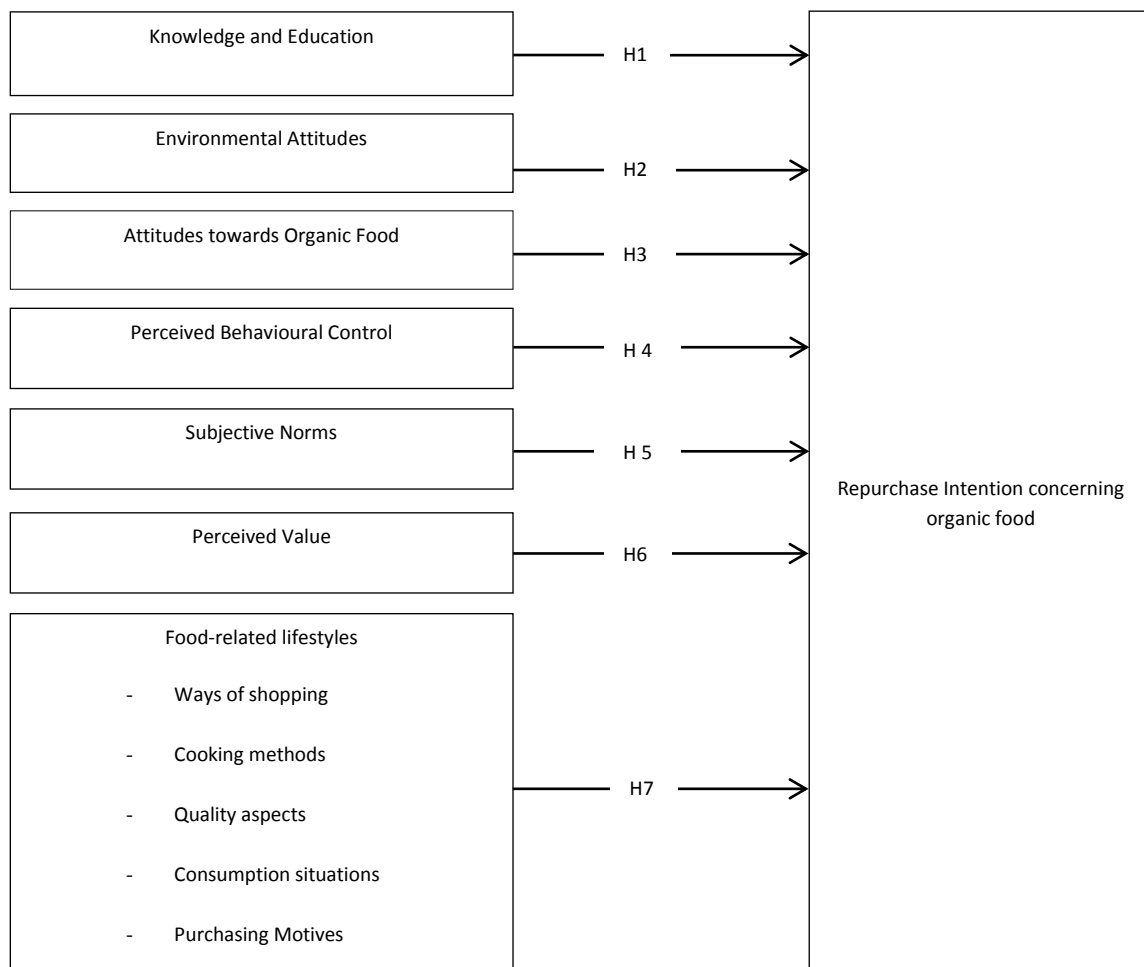
3. Methodology

2.1. Research Method Used

A descriptive analysis and an inferential analysis were used in this study. Gall *et al.* (1996) recommended descriptive research for its ability to provide statistical information regarding aspects of a study that is of interest to policy makers and researchers. Sekeran (2003) claimed that inferential analysis exhibits how variables relate to each other or whether there is any difference between two or more groups. Pearson Correlation Coefficient and Multiple Linear Regression Analysis were also employed for data analysis. In addition, a survey method was adopted to gather information from respondents because of its empirically

relevant advantages such as cost-effectiveness and flexibility. Aaker *et al.* (2000) described survey as a research technique that is used in collecting primary data from representative sample of target population.

2.2. Data Collection

The target populations of this research were Thai consumers aged twenty years and above who purchased organic food during the past six months. The primary data were collected through self-administered questionnaires from 480 respondents in supermarkets known to carry organic foods in central Bangkok area. Bangkok was chosen as location for the data collection because the city is the hub for nearly all commercial and economical activities in the country. Bangkok is also known to both locals and visitors as an attractive place for food lovers from many countries around the world. Many supermarkets and food stores in Bangkok provide large selections of domestic and imported goods. However, compare to conventional mass-produced food that can be easily found from grocery shopping options all over the city, organic food is less accessible and available in variety mostly in dedicated organic food retailers. Most stores known to carry organic foods tended to be upscale supermarket chains which are mainly located in Bangkok. So, the researcher selected the locations for gathering information from respondents based on the availability of organic products and convenience, and where most target respondents were expected. The list of four selected super market brands includes Gourmet Market, Central Food Hall, Villa Market, and Lemon Farm, where two branches of each supermarket chain were surveyed. The researcher collected the primary data on week days (Monday to Friday) from 4.00 pm to 8.00 pm where the visitors flow rate tended to be higher than during the daytime, and on weekends (Saturday and Sunday) from 10.00 am to 6.00 pm. The data were collected in the course of two months from June to August 2015.

4.   Results

The majority (65 per cent, 312 respondents) of respondents who have experience in purchasing organic food during the past six months were female. At 480 respondents, 41-to-50-years were the largest age group of organic buyers (35.6 per cent, 171 respondents). Overall, 74 per cent (355 respondents) of respondents reported they were married at the time of survey. Most of the respondents (57.3 per cent, 257 respondents) have bachelor's degree and monthly income between 45,000-54,999 Baht.

Table 1. The Summary of Demographic Factors

Demographic Factors	Major Group	Percentages and numbers
Gender	Female	65% (312)
Age	41-50 years	35.6% (171)
Marital status	Married	74% (355)
Education	Bachelor's degree	57.3% (275)
Income level (per month)	45,000 - 54,999 Baht	29.4% (141)

According to the hypotheses tested by Pearson Correlation Coefficient method, all independent variables (knowledge and education, environmental attitudes, attitudes towards organic food, perceived behavioural control, subjective norms, perceived value) were found to have positive correlation with repurchase

intention concerning organic food. Among these variables, subjective norms showed the highest correlation with repurchase intention, in which r-value equals 0.767.

Table 2. The Summary of hypotheses testing results by Pearson Correlation

Hypotheses	Results	Significance	R Value
Hypothesis 1	There is a statistically significant relationship between knowledge and education, and repurchase intention concerning organic food.	0.000	0.619
Hypothesis 2	There is a statistically significant relationship between environmental attitudes, and repurchase intention concerning organic food.	0.000	0.634
Hypothesis 3	There is a statistically significant relationship between attitudes towards organic food, and repurchase intention concerning organic food.	0.000	0.712
Hypothesis 4	There is a statistically significant relationship between perceived behavioural control, and repurchase intention concerning organic food.	0.000	0.695
Hypothesis 5	There is a statistically significant relationship between subjective norms, and repurchase intention concerning organic food.	0.000	0.767
Hypothesis 6	There is a statistically significant relationship between perceived value, and repurchase intention concerning organic food.	0.000	0.695

Based on the hypothesis tested by Multiple Linear Regression Analysis, food related-lifestyles in terms of ways of shopping is the most influential factors determining repurchase intention (Beta = 0.510), followed by quality aspects, purchasing motives, and cooking methods, respectively, while consumption situations do not influence repurchase intention concerning organic food.

Table 3. The summary of hypotheses testing results by multi linear regression analysis

Hypothesis	Sub Variables	Beta	Significance	Results
$H7_o$: Food-related lifestyles in terms of ways of shopping, cooking methods, quality aspects, consumption situations, and purchasing motives have no influence on repurchase intention concerning organic food.	Ways of shopping	0.510	0.000	Reject H_o
	Cooking methods	0.084	0.003	Reject H_o
	Quality aspects	0.283	0.000	Reject H_o

Consumption situations	0.027	0.419	Failed to reject H_o
Purchasing motives	0.092	0.009	Reject H_o

5. Discussions and Implications

The descriptive analysis of the demographic factors in this study demonstrates that most consumers who purchased organic food during the past six months and have the intention to repurchase organic food are largely composed of married females, aged between 41 to 50 years and have at least a bachelor's degree with an income between 45,000 to 54,999 Baht per month,which are presumed to be mothers. So, it should be expected that their repurchase intentions concerning organic food products are related to the wellbeing of family members. This finding is similar to the previous studies carried out by several researchers such as Liang (2014), Liang (2011), and Roitner-Schobesberger et al. (2008). Therefore, the results from demographic factors analysis may facilitate effective analysis of hypotheses results in this research as follows.

According to the first hypothesis, consumers who have higher knowledge and education present more intention to repeat the purchase of organic food. This demonstrates that increasing consumer's knowledge of organic food is relevant to the development of organic food demand. Therefore, information on organic food production as well as its benefits should be available to consumers by different media channels in order to increase consumer's organic knowledge and encourage consumer demand for organic food. The results of the second hypothesis show that consumers who are more concerned about the protection of the environment and more involved in environmental friendly practices reveal more willingness to repurchase organic food products. Therefore, marketing communication campaigns should focus on the benefits of organic food concerning the environmental protection. For example, consumers may be informed that organic food production is environmentally friendly because organic farming methods completely exclude the use of synthetic pesticides and chemical fertilizer and focus on enhancing soil fertility and biodiversity.

The results of hypothesis 3 testing show a high positive relationship between attitudes towards organic food and repurchase intention. It can be said that consumers who believe that organic food is more nutritious, tastier, causing less disease than conventional food, and processed without chemicals and preservatives, will have more intention to repurchase organic products. As recommendations, marketers might apply marketing communication campaigns to highlight these organic food's positive attributes by pointing out the difference between the production method of organic food and conventional food, especially the fact that organic food is processed without chemicals and preservatives, which causes less disease than conventional food. However, marketers must be cautious in using particular health claims such as organic food is more nutritious than conventional food for the marketing campaigns because organic food is currently not scientifically proved to be more nutritious than conventional food.

Based on hypothesis 4, the result demonstrates that consumers who think that they have more time and financial capability are more likely to repeat organic food purchase. In order to encourage more sales of organic food, business could determine whether lowering the price of some products would strengthen consumers' beliefs that they have the financial capability to repurchase organic food. As price premium and exclusive distribution of organic food have been viewed as key barriers (Shaharudin et al, 2010), it is important that organic food be available at a more affordable price. Regarding hypothesis 5, most respondents reported that people around them believe consuming organic food is better for health, and that they are appreciated and supported by friends and families to repurchase organic food. This means that consumers' intentions to

repurchase organic foods are highly affected by social pressure and the opinions of others. Therefore, marketers might focus on the existing group of opinion leaders who are willing to spread positive word of mouth about organic food consumption.

Regarding hypothesis 6, the findings indicate that the perceived value of organic food has a positive relationship with repurchase intention. The positive value perception towards organic food in this study is that organic food is more natural, safer, of superior quality, and tastier than non-organic food. Therefore, an effective awareness program for organic food products value and benefits such as advertisement and exhibition should be regularly carried out, as positive image of organic food portrayed in mass media and from marketing activities may help develop positive value perception concerning organic food. The results of hypothesis 7 testing indicate that food-related lifestyles in terms of ways of shopping is the strongest influencing factor on repurchase intention, followed by quality aspects, purchasing motives, and cooking methods, respectively. Ways of shopping in this research indicate how consumers are attached to the importance of product information, love shopping for food, and prefer shopping in the specialty stores where they can get expert advice. As recommendations, the legislation on organic product labelling should focus on providing organic food information on the product labels. The physical environment of organic food stores should also be pleasant for shopping where customer assistants should also be presented to provide information or give advice to customers.

Based on food-related lifestyles in terms of quality aspects in this study, most organic consumers who focus on consumption of food relating to product qualities are those who always buy organic food, preferably fresh and natural products without preservatives or additives. Therefore, the organic food industry could highlight the naturalness and fresh quality of organic food using the point of purchase display in the stores during the seasonal sales of fresh vegetables and fruits. Consumers should also be informed that organic foods are fresher and more natural because they do not contain neither preservatives to make them last longer nor additives to enhance the taste and appearance or to preserve flavour.

According to food-related lifestyles in terms of purchasing motives, the researcher found that the sense of security, stability, and self-esteem are the main motivations for consumers' repurchase intention towards organic foods. Thus, marketer could point out the ill-effects and serious threat of chemical residues in food by using fear appeal in advertising. If consumers were aware of food safety, they would consider repurchasing organic food rather than conventional ones. Finally, based on food-related lifestyles in terms of cooking methods, the results show that organic buyers are those who very much enjoy cooking. They love to spend ample time in the kitchen as well as planning for cooking. Therefore, marketer should try to associate organic food consumption with cooking activities. For example, firms could organise cooking activities for organic food lovers such as a cooking contest that allows participants to use only organic ingredients, as well as providing attractive incentives and rewards for the winner. However, food-related lifestyles in terms of the consumption situation do not have influence on consumers' repurchase intention. Thus, marketer should pay less attention to this aspect and focus on only factors that   influence organic food repurchase intention.

6. Further Study

In this study, the researcher identified some areas where further research is needed. First, this research applied non probability samplings where paper questionnaires were employed to perform sampling in Bangkok, Thailand. As the number of the population who purchased organic food in Bangkok was unknown, the data were collected from consumers who shopped in supermarket chains based on the convenience sampling method which could demonstrate bias. Thus, future research could perform sampling using a different sampling method such as probability sampling so that the sampling bias can be eliminated since the respondents are randomly chosen. Second, the researcher only tested eleven independent variables. However, there are several variables that influence organic food repurchase intention. Therefore, further research could perform an examination of other variables such as trust, satisfaction, brand image, and loyalty. Finally, the collection of data was undertaken in only eight supermarkets chains in central Bangkok where many supermarkets in Bangkok and other regions in Thailand were excluded from this study, which may limit the profile of respondents to a certain

category.Therefore, further research could examine different sampling regions to study the population who may have different perceptions, attitudes, and lifestyles. In addition, this research studied consumers' repurchase intention concerning organic food in general. Thus, further research could focus on specific brand of products and supermarkets in order to obtain more insight into the organic food brands.

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Path Analysis of Psychological and Situational Factors on Trust in the Government

Naksit Sakdapat, Duangjai Kaewmali and Pornpong Sakdapat

Abstract

The purposes of this research were to 1 (study both direct and indirect psychological and situational factors on trust in the government of the high school students, and 2(study the relationship between crucial psychological and situational factors on trust in the government of the high school students.

The crucial research results revealed as follows: (1theexogenous latent variable of situations, which was, Social Norms, it had the statistical significance, and the weight was equal to 0.458. This indicates that the exogenous latent variable had indirect factors on trust in the government, but the Love and Reason Oriented Child Rearing Practices had the factor loading equal to 0. 216which had indirect factors on trust in the government, and 2)endogenous latent variable of psychological factors was the Openness to Experience, which had the indirect factors on trust in the government, with the negative path coefficient)-(115..

For the relationship of psychological and situational factorson trust in the government, it was found that (1the Ego-Identityand Openness to Experiencehad the positive relationship by statistical significance on trust in the government, and 2)the Love and Reason Oriented Child Rearing Practices, and Social Normshad the positive relationship by statistical significance on trust in the government.

It is necessary to change the development of Openness to Experiences to be in accordance with the society, and increase the development of Social Norms, and Love and Reason Oriented Child Rearing Practices more.

KEYWORDS:Psychological and Situational Factors / Trust in the Government / Social Background

Introduction

It is generally accepted that trust in the government is really necessary and crucial for the stability of government; namely, trust is the requirementof the governmentfor attendingof conductiontowards others based on positive expectation related to the individual behaviors under the risk and dependence conditions. Trust indicates the dependence or confidence in some situations conducted by the government. Moreover, trust reflects the expectation of positive results. Trust also shows some risks towards the expectation of the things received, and some levels of uncertainty towards the results) Mayer, Davis, &Schoorman, 1995). These suggest that if there are a lot of trusts inthe government, it reflects that the government has done in accordance with the people's needs, vice versa,whenever trust towards the government becomes low, it reflects the dissatisfaction from the people, for example, the problem solving policy is not directed to the point, the educational policy is ineffective. Therefore, trust towards government is considered as the thinking concept which can indicate that the government is effective and achieve the performances which are directed to the point, and satisfied by the people.

However, to develop the trust of government, it really requires time, which is, Trust Takes Time; namely, to createtrust or maintain trust, it takes time as a capital for creation and development. Even though trust has happened, it is necessary to remain capital consistently. The development of trust no matter how short or long time it is used, it is not soimportant as maintaining trust to be consistent. For the trust, it can be developed to happen in a short time if the leaders open opportunities for the personnel to co-participate for determining goals and responsibilities (Reynolds, (1997. Moreover, Trust has to be Tough; the government which has high level of trust, the personnel will work at a high level to achieve successin accordance with the

set standard, and work with quickness, strength, and patience, in order to be progress in their positions and duties. Whereas the government which has the trust at a low level, the personnel will work when they can, and the productivity got is low. In addition, Trust must be Practiced;the development of trust is like the athletes who have to use numerous skills, practices, and spirits so that they can reach the required goals. Hence, to create trust of government, it has to develop both skills and mind (Marshall, 2000). The above reasons show the importance of trust towards government, which means, the government gets acceptance from most of the people, and the people are confident with the words of politicians who say they will really do for their citizens. This is because trust in the government is like the tools to bind between the government and people to live together with affection, and have mutual participation towards the development (Kouzes & Posner, 1989).

According to the literature reviews, the concept of trust from Mishra19)6(9which indicates 4 trust factors, which include, the dimensions of competence, openness, concern, and reliability. The researcher views that these dimensions are clear and can be measured from the individuals' feelings, as well as having scopes covering the contents which need to be studied, therefore the researcher selects this concept to determine as the conceptual framework for this study.

Objectives

1. To study the relationship between crucial psychological and situations on trust in the government of the high school students.

2. To study the direct and indirect influences of the psychological and situations on trust in the government of the high school students.

Research Methodology

This research is done by Quantitative Researchtype in order to study the opinions on trust in the government of the high school students, and study the biosocial factors and background of the high school students which affect the trust in the government. The sample group is 600 high school students from 3 schools. The research methodology is carried out by using Convenient Sampling Method. And when investigatingthe completeness and correctness of the questionnaire, it is found that the questionnaires which can be used really for this research are from 551 samples.

Research Instrument

The instrument used for measuring the variables in this research consists of the measurement formof 5 variables, which include, 1 (measurement form of trust in the government, (2measurement form of psychological traits group, this is divided into 2 factors; Ego-Identity, and Openness to Experience, (3 measurement form of the situational group, this is divided into 2factors; Love and Reason Oriented Child Rearing Practices, and Social Norms

Figure 1: Interactionism Model
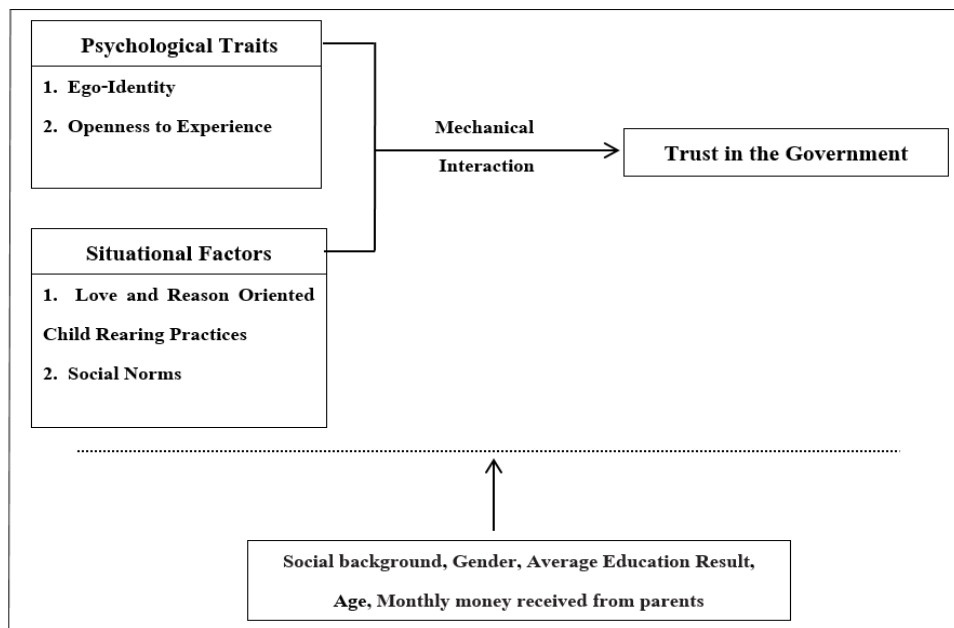
Figure1 The relationship between thevariablesfrom Interactionism Model)Magnusson &Endle,1977; Tett& Burnett, 2003;DuangduenBhanthumnavin, 1998(

For this research, there are 2 types of measurement, which include1 (measurement form which has high standard from other researches applied by the researcher for 5measurement form, which are, measurement formof Me and Government)DujdeuenBhanthumnavin(, My New Thing) Naiyana Pet-In(, measurement formof Direct Experience) DuangduenBhanthumnavin(, measurement form of Personal Opinion) UsaSrijindarat(, measurement form of People around Me) DujdeuenBhanthumnavinin(. All sets of measurement formare analyzed to find each item of quality, and quality of each measurement form. All sets of measurement formhave the details as follows:

.1To find the validity of measurement formused in this research. This is to find the content validity by bringing the created measurement form according to the operational definition in each variable to be considered by the experts or advisor for its contents that how much or how the contents are comprehensiveand appropriate to the samples population group, then the researcher improves and adjusts them for getting the complete measurement form, and uses it as the testing.

2. To bring the measurement formto test with the target group which has the similar characteristics to the sample group, which is, 100 high school students.

3. To analyze the quality of measurement form in each item by 2 types of statistics, which include,1(to analyze the item discrimination, or find the t-ratio. For the finding of item discrimination in this research, the research finds all items of the measurement formcreated newly by using the t-ratio statistics. The 30 %techniques are used by the criteria as follows; the t-Value which has the significance at 05.level, and a number of persons are equal to 500 persons, which is, the t-Value is equal to 1.97, or 1.97 up,2(to analyze the correlation coefficient between each item of scores and total scores of the measurement form not included that item) Item Total Correlation(, or r-Value. The criteria is that the r-Value must be higher than 0.20. Only the items met the criteria will be selected, especially the criteria of t-Value is considered as the main. These statements must cover the contents of variables in accordance with the chart of operational definition of each variable.

.4To find the reliability for all measurement forms which have been approved, in order to find the reliability in a type of AlphaCoefficient.

Table1: The quality of instruments to measure the variables in the research

Group	Measurement	Number	Ranget	Ranger	Reliability
1.	Me and Government	15	2.91 - 6.99	.24 - .68	.868
2.	My New Thing	20	2.11 - 7.63	.08 - .51	.853
3.	SocialBackground	-	-	-	-
4.	Home Experience	12	2.90 – 5.44	.21 - .73	.878
5.	Personal Opinion	20	2.15 – 6.02	.12 - .42	.840
6.	People Around Me	14	2.17 – 8.36	.12 - .55	.859

Data Collection

The researcher contacts the teachers of each school to study the opinions about trust in the government of high school students, and studies the biosocial factors and background of the high school students. The researcher gives out the questionnaires with descriptions, and collects the data from the students. The total data which can be collected are 600 questionnaires.

Data Analysis

The analysis of this research uses computer program of SPSS for Windows. The statistics used are as follows:

1. DescriptiveStatistics; by finding the Frequency, Percentage, Mean, and Standard Deviation for basic analysis, and consideration of sub-group categorization

2. Inferential Statistics; this is used to test the hypothesis as follows:

2.1To find the correlation coefficient of Pearson's Product Moment Correlation, to find the relationship value of the variable used for this study.

2.2 To find the path analysis for finding the direct and indirect influences of the psychological traits and situations.

Result

When considering the characteristics according to the biosocial factors and background)Table2(, the details are follows: 1(gender; gender is divided into 184 male students(33.4%), and 367 female students 66.6)%(, 2(age of students; the range is between 17years old and 18years old, the average is 17.16 years old, themedian is 17 years old, and standard deviation is 485. years old. When using the value of 17 years old and 18 years old as the criteria to divide the age of students into 2 groups,it makes the result that the students whose ages are less than or equal to 17 years old are considered as the young age; 434 students78.8) %(, and the students whose ages are more than 18 years old are considered as the old age; 117 students21.2) %(, 3(the grade point average) GPA(has the range between 2.01 and 3.98, the average point is equal to 3.06, the median is 3.12, and standard deviation is 0.45. When using the value of 2.00 – 3.00and 3.01– 4.00 as the criteria to divide the grade average point of the students into 2 groups, it can be divided into the students whose their grade point average is less than or equal to 3.00 as the students who get a few scores of grade point averages; 29

students41.6)%(, and the students whose their grade average points are more than 3.01are considered as getting high grade average points;322 students 58.4) %(, and 4 (the allowance got from parents monthly have the range between 1,000 baht and 7,500 baht, the average is 3, 544.43 baht, the median is 3000 baht, and the standard deviation is 1,739.66 baht. When using the value of 3 - 1,750 baht, and 3,7 - 751,500 baht as the criteria of allowance got from the parents monthly to be divided into 2 groups, the students whose allowance got from parents monthlyis less than or equal to 3,750 baht considered as getting a few monthly allowances from parents;332students63) %(, and students whose their monthly allowance is more than 3,751is considered as getting much monthly allowance; 195 students37)%(.

Table 2: Percentage and basic characteristics of the sample group

Analysis Result of Correlation Coefficient between Variables in the Research

correlation coefficient towards the trust in the government equal to) 432.p <.01(and .623) p <.01(, 2(the variable group of situations divided into 2 variables including Love and Reason Oriented Child Rearing

Particulars		Number	Percentage*
Gender	Male	184	33.4
(N = 551(	Female	367	66.6
Age	17	434	78.8
(N = 551(	18	117	21.2
Grade Point Average) GPA(	2.00 - 3.00	229	41.6
(N = 551, $\overline{X}$ = 3.08, S.D. = 0.455)	4.00 - 3.01	322	58.4
Monthly money received from	1 - 3,750	332	63.0
parents (N = 527, $\overline{X}$ = 3,544.43, S.D. = 1,739.661)	3,751 - 7,500	195	37.0

Practices, and Social Norms, has the correlation coefficient towards the trust in the government which has the respective values equal to) 556.p <.01(, and .589) p <.01(, and the value of correlation coefficient between independent variables has the highest value between Love and Reason Oriented Child Rearing Practices, and Social Norms which has the value equal to 356.(p<.01)**.**

Table3: Mean, Standard Deviation, and Correlation Coefficient of Variables in the total group

Analysis results of Psychological and Situational Factors on Trust in the Government

This data analysis uses the method of model testing by using the Latent Model, and analyzes the

Variables	verage	D.				
Trust in the Government	01.48	2.57				
Openness to Experience	5.20	.44	432**			
Love and Reason Oriented Child Rearing Practices	2.19	0.11	556**	.170**		
Ego-Identity	1.74	0.35	623**	.040	217**	
Social Norms	5.15	.24	589**	.073	356**	355**

NOTE: * p < .05 , ** p <.01 , n = 551

rawdata from 600 samples. When investigated the completeness and correctness, there are a number of data which can be used really, and be the initial data for testing this model, which is, 551 students)Figure(2.
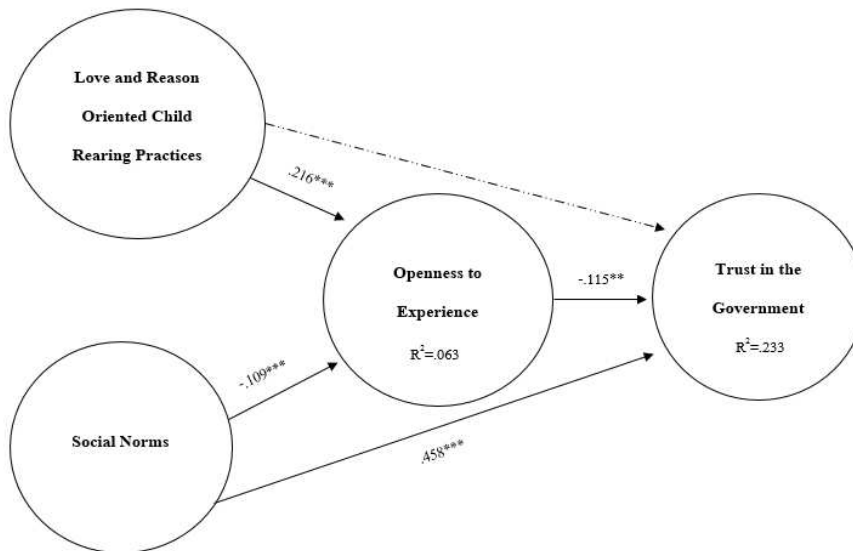

Figure2:Path analysis of causal relationship between the variables

The research results reveal that theorigin model according to the hypothesis have no harmonywith the empirical data, therefore the model is adjusted, and gets the harmonious modelwith the empirical data, by having the Goodness of Fit Index (GFI), and have the direct and indirect influence value.

Table4: Goodness of fit index (GFI)

Statistics Value	Consideration Criteria	StatisticalValue in the Model
χ^2	More than .90	χ^2 = 2.867 , df = 1 , p-value = 0.0904
SRMR	More than.05	0.024
CFI	More than.90	0.989
RMSEA	More than.60	0.058
TLI	More than.90	0.946

According to the Table 4and Figure 2, it appears that the exogenous latent variables of situations consist of 2factors. The most components are Love and Reason Oriented Child Rearing Practices) thefactor loading is equal to 0.(216, secondly is Social Norms) factor loading is equal to(109.- . The endogenous latent variable interms of psychological traits consists of 1component. The component which has the most factor loading is Openness to Experience) factor loading is equal to (115.-. The exogenous latent variable in terms of situations is Social Norms by having the statistical significance, and weight equal to 0.458. This indicates that the exogenous latent variable has the direct influence towards the trust in the government, and the endogenous latent variable in terms of psychological traitshas the indirect influence on the trust in the government.The path coefficient is negative) -(115., which means the students have the few psychological traits, namely, the openness to the new experiences is little which will cause the trust in the government to be little. At the same time, the more the students have high Social Norms it will make them to be highly trust in the government.

Evaluation

According to the research results, it suggests the influences of Openness to Experience which directly affects the trust. This is similar to the research of Naiyana Pet-In2) 012(176 , about thepersuasive messages and psycho-social casual factors which affect the acceptance of nuclear plant and agreement onnuclear plant establishment, done with the 612 bachelor students, who were the third year undergraduate students from three northern universities. The students were divided into the Science Program for 306 personsand Social ScienceProgram for 306 students. The grade average points were2.64 , the median of the grade average point was equal to 2.54, and standard deviation of the grade average point was equal to 0.48. The research results concluded that the students who had high Openness to Experience was highly trust in the government(r=.391), and Love and Reason Oriented Child Rearing Practices had the indirect influence to the trust in the government. This is similar to the research of DuangduenBhanthumnavin,OrapanChuchom, and NgamtaWanintanon)1985, (7 who studied about the ecological psychology on child rearingof Thai mothers, and the researches mentioned the effects caused by the rearing that Love and Reason Oriented Child Rearing Practices was a characteristic of rearing which parents acted to their children by expressing their love, concern, and happiness and sorrow of the children much, they were closed with their children, did activities mutually with them, intimated, supported and helped, as well asgiving precedence and giving what their children needed, therefore the children realized their parents were important, and accepted, obeyed their parents. The impacts caused by the Love and Reason Oriented Child Rearing Practicescan be considered as it is the crucial base of the children when they are growing up till they feel affection and trust others. Moreover, they have good adjustment and good mental health. When the children make a mistake, they will accept and confess their faults, and feel ashamed. In addition, the children have a little aggression and give cooperation to others much. Love and Reason Oriented Child Rearing Practicescan be found in the person who has highvirtuesand ethics. They are not against the rules and regulations and laws. The Openness toExperiencealso has indirect influences. The research results found in this study is in accordance with the research of NattawadeePanyasakulwong 2)012(197 , who studied about the Effects of persuasive reading and writing on acceptance of nuclear plant for the bachelor's degree students. The research was an experimental research by using the Post Test Onlywith Control Group Design. TheRandom AssignmentMethod was used in this research. The students were the second and third year of undergraduate students from 2 universities, total 491persons, divided into male for 138persons, female for 353 persons. The grade average point was 2.76, program in Science;215 persons, and Social Science; 276 persons. The research

results concluded that the students who have high openness to the nuclear news would be the persons who had high trust in the government(r=.374) .

Recommendations

Recommendation received from this research

Firstly, this research found the results of relationship related to the trust in the government of the students, which, was, Ego-Identity. It can be seen that this factor all directly relates to the ideas and behaviors of the students. Hence, this research result supports the students to have their development on their ability to self-understanding, self goals setting, self-esteem, and have the ideas and beliefs, as well as realizing their own roles, duties, and responsibilities, reasonably. This is not only the Ego-Identity, which the students have to think by themselves, but there are also other factors which affect the trust in the government of the students, which is, Social Norms. This is because the students who acknowledged thattheir influenced personsthought that what the students should or should not do those behaviors, if the persons acknowledge that anyone who is important to them thinks that how much more thepersons should act, they will have the motivation to act those behaviors. On the other hand, if those persons acknowledgethat anyone who is important to them thinks that they should not do those behaviors, the influenced person will pressure them to avoid those behaviors. This can be clearly shown that it is necessary for the students themselves to have the typicality of the persons, in society, who behave well, have highvirtues and ethics, in order to be the quality persons for the children.

Secondly, the research which should be adjusted the attitude and trust in the government newly is the female group which has high grade point average and has less trust in the government that the female group which has the low grade point average, actually has the high trust in the government is not always good, and the little trust in the government is not good either. However, the students have to trust in the government at the appropriate level, namely, the students have to help inspect the performance of government sector to be in accordance with the purposes which should be. This is because the duties of all people are about investigating the performance of government, following, and evaluating the policies. Although it is considered as unimportant, it is necessary to focus on. According to the female group which has the little grade point average is trust the government more, one of the causes is that the students acceptthe governmental performance and think that the government does the right things in several issues. Meanwhile, the female group which has much grade point average is found that the governmental performance which supports their own companions is considered as cheat, policy corruption, and convenience buying. Thus, the female students group which has the little grade point average should get real knowledge, and has to try to examine the correct data, while parents should implant in the students to let them think critically, carefully, and should learn the governmental performance much more. And the government itself should access the students in the depth views really; namely, it should let the students mutually issue their policies by their own in order that they will be able to improvethe creative opinions, and it should have the stage for students to exchange ideas and learn to one another appropriately, as well as giving them the opportunity to ask, follow, and investigate the performance of governmental sectors really.

Recommendation for further study

According to the research results, this can propose the research as follows; 1(this research result is the base of creating psychological and situations set to develop trust in the government appropriately, then testing and evaluating further, 2 (it should study the research about trust in the government of the countries which have high reliability in the part of social psychology, (3 for the further research, it should add the variables, such as the variables in the psychological group according to the situations to help the research results of the trust in the government clearer, and 4 (the further research should propose this information to the governmental organizations sometimes in these issues, such as education, this should set the curriculumin general schools that should insert the historical contents of administration,constitutional laws, human's rights, virtues and ethics, etc, and these should be the compulsory coursebecause according to the study, it is found that the major problem in Thai society of the present time is still from the economic overlap of people. The government should participate to reduce the difference more. One of the methods for reducing the difference and increase social opportunity more is that the students should get the education thoroughly and qualitatively in order to get the development of life quality sustainably.

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A Comparison Study of Service Quality, Customer Satisfaction and Word of Mouth between Thai and Cambodian Customers towards a Coffee Shop

Sothean Phorn and Sirion Chaipoopirutana

Abstract

This study is to comparing the service quality, customer satisfaction and word of mouth between Thai customers and Cambodian customers towards the True coffee shops. And this study also conducts to find the relationship of service quality dimensions, customer satisfaction and word of mouth between Thai customers and Cambodian customers. The researcher surveyed 400 respondents who have had experienced with the True coffee shops, 200 respondents of Thai customers and 200 of Cambodian customers. Descriptive analysis and inferential analysis were use to analyze the data. The results showed there were significant different between Thai customers and Cambodian customers in Physical environment, customer satisfaction and word of mouth. Service quality in terms of interaction quality and outcome quality were not significant different between Thai customers and Cambodian customers. Based on the findings the researcher has made recommendations towards to company

Keywords: Service Quality, Interaction Quality, Physical Environment Quality, Outcome Quality, Customer Satisfaction, Word Of Mouth.

1. Introduction

The goal of every business is to satisfy the needs of the customers, in order to get the customer satisfaction (Padma *et al.,* 2009). The competitive business environment currently focused on customer satisfaction, in order to market the business (Babin and Griffin, 1998; Oliver, 1999). Normally, the first evaluation of a product or service's performance of the company is customer satisfaction (Anderson and Sullivan, 1993). If he or she perceives a high quality experience, he or she will leave as a satisfied customer and surely will spread the word to family and friends, which leads to creating word of mouth. In addition, word of mouth plays a very important role in service businesses, especially when it comes to the services of the food and beverage business. Word of mouth can generate more customers or can reduce the number of the customers depending on the service quality and customer satisfaction. In this study the researcher applied many independent variables, which may impact on customer satisfaction and word of mouth towards the coffee shop business. The coffee industry is not only entertaining but also it offers many provocations as it has become increasingly demanding and competitive in all areas of operations for success. In this study, the researcher studied about service quality, customer satisfaction and word of mouth towards the True coffee shop in Bangkok, Thailand and Phnom Penh, Cambodia.

The reason that the researcher choses the True coffee shop among other coffee shops in Thailand because True coffee shop is originally from Thailand, one of the premium and local cafés in Thailand that provide a verity of products and standard services to customers. And the reason that the researcher chooses the True coffee shop among other coffee shops in Cambodia is because the researcher wants to compare between Thai customers and Cambodian customers. In order to compare a service or product, it is to make sure that the subjects that are used to compare is actually the same industry or the same field and the researcher would like to study the result or feedback from customers based on level of customer satisfaction and word of mouth in terms of negative or positive feedback when compared between two countries. As, True coffee shop is also available in Phnom Penh, Cambodia, the researcher decided to choose the True coffee shop for the study. True coffee in Thailand is the name of the shop under the True Telecommunication and Multimedia service. The leading company in this group is True Corporation, providing a fully integrated communication solution provider in Thailand. The mother company is Charoen Pokphand Group (CP Group) (http://www3.truecorp.co.th/home, accessed on 22/04/15). The researcher studied one of the services from True Company, which is the True Coffee

Shop. True Coffee shop was established in the year of 2548 (2015). The first shop was located in Kao san road in Bangkok, Thailand. Using the concept of from the earth to the cup, and to make customers escape from all worries, sit, relax, sip and surf. Inside the coffee shop, besides premium coffee, the shop also provides high speed Internet Wi-Fi to the customers. The customers of true coffee shop will be able to drink the good taste of coffee at the same time using other services from True. Moreover, True coffee also provides a premium bakery, sandwiches and coffee mugs. Nowadays, there are seventy-eight branches of True coffee shop in Bangkok, Thailand in both individual and franchises.

G.T. Group Co., Ltd. Is a multi-business company established in 2004 in Cambodia. GT Group was granted exclusive franchising for True coffee shop from Thailand to Cambodia in the year 2011, located at the Paradise hotel (http://www.goldentree-group.com/index.php?action=ID1, accessed on 22/04/15). They believe that "What works in Thailand also works well in the Cambodian market" as consumer perceptions are quite similar. True coffee in Cambodia provides the same services as True coffee in Thailand (beverage, bakery, coffee mugs). There is only one shop in Phnom Penh, Cambodia right now. And in the near future the company is planning to expand and open more branches inside Cambodia (City and Provinces) https://www.facebook.com/pages/TrueCoffeeCambodia/570295479677686?sk=info&tab=page_info, accessed on 22/04/15).

1.1. Service Quality

The measurement of service quality is SERVQUAL or gap analysis and was developed by Panasuraman *et al.* (1980) and is a tool to evaluate service quality based on the customers' aspect by comparing their perception with their expectations and if the customer's experience does not match with their expectation a gap will happen. However in this study, the researcher applied only service quality, which is one part of SERVQUAL, known as SERVPERF. There are three service quality dimensions as follows interaction quality, physical environment quality and outcome quality. Cronin and Taylor (1992) defined to measure the service quality, should only from the customer perceptions. Service quality should compare customers' desires and how to fulfill customers' needs

1.2. Interaction Quality

Interaction quality refers to the excellent service quality that is provided to the consumer, the behaviour of the employees towards customers. According to HSQM, interaction quality is a function of attitude, behaviour and expertise (Pollack, 2009). For the phone service, the most important factors for interaction quality is attitude and behaviour and for the hairdresser and barber services the main driver of interaction quality is attitude and expertise (Pollack, 2009). Mukherjee (2002) indicated that the service quality interaction in franchise chains, exists and it can be influenced by different variables.

1.3. Physical Environment Quality

The physical environment is comprised of ambient conditions, design and social factors (Brady and Cronin, 2001). For the phone industry, the most important factors of the present results suggest that ambient conditions and social factors are important while ambient conditions and design are important for the hairdresser/ barber sample (Pollack, 2009). In a retail store, consumer conduct was basically a passionate reaction to the variables making up the retail environment. On a more general level, some researchers suggest that physical settings can create certain expectations about how individuals should act. The physical environment works discriminatingly and coordinates the activities of persons. People manage and react to their surroundings in different personal ways because they are different.

1.4. Outcome Quality

Outcome quality refers to the outcome of the service performance and represents what the consumer perceives from the service quality (Mansor *et al.* 2012). Service outcome refers to the outcome of the service act, after the service delivery to the customer (Gronroos, 1984). Brady and Cronin (2001) stated that the outcome quality consider the customer's perception of the excellent service experience. There are three types of services, in which the perceived quality of service outcomes positively influences customer satisfaction, i.e.,

photograph developing shops, banks, and hospitals (Hsieh and Hiang, 2004). For the phone service and hair dresser/Baber shops in terms of overall service quality all three primary dimensions are important for outcome quality (Pollack, 2009). Also, Baker and Lamb (1993) defined that customers of each industry, regularly unable to assess the technical quality of the outcome, must rely on the procedure measurements as an indicator of the quality of service they have received.

1.5. Customer Satisfaction

Customer satisfaction refers to a judgment of customers about the products or service that the company provided with a pleasurable level of customers based on fulfillment response (Pollack, 2009). Oliver (1992) conceptualized that customer satisfaction is the preliminary step of evaluation in a customer's decision and emotional response to the overall product or service experience. Increasing customer satisfaction leads to enhance the profits. Customer satisfaction is considered as a primary condition for customer loyalty that is an important thing for increasing profits. The future trend in building marketing is to expand customer relationships and marketer has become increasingly interested in keeping customers over the long run. Bolton (1998), Rust and Zahorik (1993) and Zeithaml et.al (1996) suggested that customer satisfaction is a key decision of customer holdings. By satisfying customers' needs, companies can get up to 40 percent more of return customers

1.6. Word Of Mouth

Word of mouth refers to people talking about service or products based on their experiences to their families, friends, co-workers, and others, which may influence the customer to repurchase. A measurement scale for WOM has yet to be systematically developed and empirically validated (see J. Anderson and Gerbing 1988; Churchill 1979). WOM may be defined as informal, person-to-person communication between a perceived noncommercial communicator and a receiver regarding a brand, a product, an organization, or a service (E. Anderson 1998; Arndt 1968; Buttle 1998). Following Churchill's (1979) recommendations for developing marketing measures, once a construct is defined, the next step is to generate a set of items that capture the domain of the construct (Churchill 1979). On the basis of the literature review, aspects of WOM appear to include several aspects. One aspect is enthusiasm, which includes frequency (how often the individual engages in WOM) and the number of contacts (E. Anderson 1998; Brown and Reingen 1987; Reingen and Kernan 1986) Author Artwork.

2. Hypotheses development

Based on the previous studies, there are many different factors that lead to customer satisfaction and word of mouth. However, the researcher applied three variables of service quality (interaction quality, physical environment quality, and outcome quality) and another tow variables to the study (customer satisfaction and word of mouth).

H1: There is no significant difference in service quality in terms of interaction quality between Thai customers and Cambodian customers.

H2: There is a significant difference in service quality in terms of physical environment quality between Thai customers and Cambodian customers.

H3: There is no significant difference in service quality in terms of outcome quality between Thai customers and Cambodian customers.

H4: There is a significant difference in customer satisfaction between Thai customers and Cambodian customers.

H5: There is a significant difference in word of mouth between Thai customers and Cambodian customers.

H6: Service quality interms of interaction quality, physical environment quality, outcome quality do not influence customer satisfaction of Cambodian customers.

H7: Service quality in terms of interaction quality, physical environment quality, outcome quality do not influence customer satisfaction of Thai customer.

H8: There is no significant relationship between customer satisfaction and word of mouth for Thai customers.

H9: There is no significantrelationship between customer satisfaction and word of mouth for Cambodian customers.

H10: Service quality in terms of interaction quality, physical environment quality, outcome quality do not influence word of mouth of Thai customers.

H11: Service quality in terms of interaction quality, physical environment quality, outcome quality do not influence word of mouth of Cambodian customers

Figure 1. Conceptual Framework
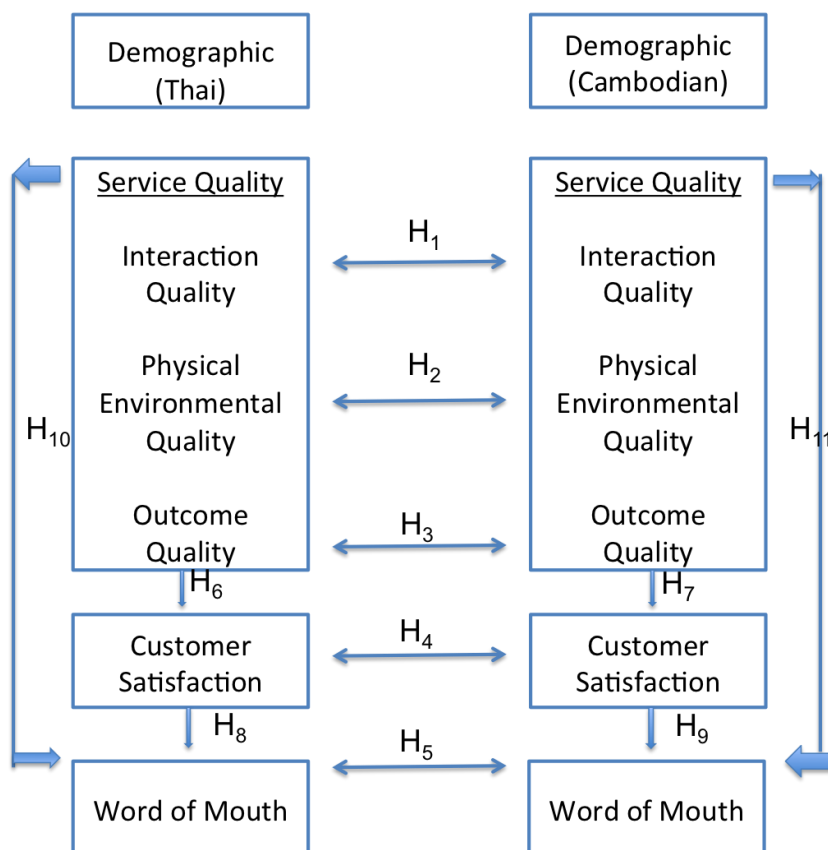
3. Methodology

3.3. Research Method Used

Descriptive research method was used in this study. Zikmund (2003) stated that descriptive stated that descriptive research methodology is used to describe the answers to quantitative analysis that requires a specification of who, what, when, where, and how questions. This method is one of the basic methods for a researcher to obtain quantitative data. Descriptive research also can be use to estimate the proportion of the respondents who behave in a certain way (Churchill, 1999)

3.4. Data Collection

The purpose of this study is to compare the service quality, customer satisfaction and word of mouth between Thai customer and Cambodian customers towards the True coffee shops. 400 questionnaires were distributed and administered to the target population that divided into two groups, which are Thai customers 200 and Cambodian customers 200 who have had experience with True coffee shops in Thailand and Cambodia.

4. Results

The primary objective of this study was comparing between two nationalities service quality, customer satisfaction and word of mouth towards True coffee shops in Thailand and Cambodia. The researcher collected data from 400 respondents, which comprised 200 Thai respondents and 200 Cambodian respondents. Indicated that a majority of respondents were females (64.5%) and most of them are aged from 21-30 years old with an education level of a Master Degree and occupation in as private company employees. The income levels are from 15.001 baht to 30.000 baht. The Cambodian demographic characteristics revealed that the highest percentage of gender was males (58%) and most of the respondents were aged from 21

Table 1. The Summary of Demographic Factors

Consumer Characteristics	Majority in Percentage	
	Thai Customers	Cambodian Customers
Gender	Female 64.5%	Male 58%
Age	21-30 years old	21-30 years old
Education	Master Degree	Bachelor degree
Occupation	Private company	Private company employee
Income levels	employee	$401-$900
	15.001-30.000 baht	

Table 2: Summary of Group I from Hypothesis Testing by Independent T-Test

Null Hypothesis	Statistical Treatment	Level of Significance	Results
H_1o: There is no significant different in service quality in terms of interaction quality between Thai customers and Cambodian customers.	Independent T-Test	0.312	Failed to reject Ho
H_2o: There is no significant difference in service quality in terms of physical environment quality between Thai customers and Cambodian customers.	Independent T-Test	0.002	Rejected Ho
H_3o: There is no significant difference in service quality in terms of outcome quality between Thai customers and Cambodian customers	Independent T-Test	0.077	Failed to reject H_o
H_4o: There is no significant difference in customer satisfaction between Thai customers and Cambodian customers	Independent T-Test	0.000	Rejected H_o
H_5o: There is no significant different in word of mouth between Thai customers and Cambodian customers.	Independent T-Test	0.000	Rejected H_o

Table 3 Summary of Group II from Hypothesis Testing by Pearson Correlation

| Null Hypothesis	Statistical Treatment	Level of Significance	Beta Coefficient Values	Results
H_8o: There is no significant relationship between customer satisfaction and word of mouth of Thai customers	Pearson Correlation	0.000	0.654	Rejected H_o
H_9o: There is no significant relationship between customer satisfaction and word of mouth of Cambodian customers.	Pearson Correlation	0.000	0.654	Rejected H_0

Table 4 Summary of Group III from Hypothesis Testing by Multiple Regression

Null Hypothesis	Statistical Treatment	Level of Significance	Beta Coefficient Values	Results
H_6o: Service quality in terms of Interaction quality Physical environment quality Outcome quality Are not influence on customer satisfaction of Cambodian customers	Multiple Regression	0.448 0.012 0.000	-.076 -.217 .865	Failed H_o Rejected H_o Rejected H_o
H_7o: Service quality in terms of Interaction quality Physical environment quality Outcome quality Are not influence on customer satisfaction of Thai customers	Multiple Regression	0.032 0.003 0.038	.202 .326 .243	Rejected H_o
$H_{10}o$: Service quality in terms of Interaction quality Physical environment quality Outcome quality Are not influence on word of mouth of Thai customers	Multiple Regression	0.399 0.028 0.000	-.136 -.301 1.015	Failed H_o Rejected H_o Rejected H_o

$H_{11}o$: Service quality in terms of	Multiple Regression			
Interaction quality		0.002	.232	
Physical environment quality				
Outcome quality		0.002	.266	Rejected H_o
Are not influence on word of mouth of		0.000	.578	
Cambodian customers				

5. Discussions and Implications

Based on Hypothesis 1, the result indicates that the significant of service quality in terms of interaction quality between Thai customers and Cambodian customers are no different. Thai and Cambodian customers perceived the same quality of interaction with the True coffee's staff; they trust the employees at the same level. Both nationalities believe that the attitudes of the True coffee's staff are the same and the staff also responds quickly to the needs of the customers in the same way. Based on Table 6.2 the total average mean of interaction quality of Thai customers was 3.55 and Cambodian customers were 3.48. Even though, the result seems to be good, in order to improve and sustain the business, the True coffee shops should keep improving the interaction quality and the researcher would like to recommend to the True coffee shops in Bangkok, Thailand and in Phnom Penh, Cambodia to focus more on the human resource management by providing training courses to the staff of the True coffee shops for product improvement and for attitude towards customers. Train staff of the True coffee shops in effective customer service techniques, by using the care concept which includes such simple steps such as looking customers in the eye and smiling at them with greeting them promptly, as well as measures such as anticipating their needs they should organize the event in order to build the relationship between staff and the management team, to fill in the blanks between staffs and manger in order to respond quickly and provide the right service to customers. True coffee shops should recruit the right people and put in the right job by looking and hiring people that have a passion and really have a service mind. Once the staff is happy to work then they will provide better interaction quality with the customers.

Based on Hypothesis 2, the result indicates that the significant of service quality in terms of physical environment quality between Thai customers and Cambodian customers are different. Based on the discussion shows that in order to improve the physical environment quality of the True coffee shops in Cambodia, the researcher recommends to the True coffee shop in Cambodia to improve the environment inside the shops, based on the majority of respondents is the aged from 21 to 30 years old. The majority of this age is looking for a place to sit not only for the coffee but they would like to use the facilities of the shop for their own personal lifestyle. In the meantime, the parking lot is very important for customers, True coffee shop in Cambodian should consider a location that provides a place for parking for customers. As in both countries Thailand and Cambodian, there are many coffee shops growing day by day, which they are focus on the design to get more attention from the customers. Only focusing on the products and services is not enough to support the needs of the customers with this age group. In addition, the environment quality, the shop's layout also is one of the main important to approach the customers is the trend of the social media, if the True coffee shops focus on this; True coffee shops will get more customers. Moreover, the researcher would suggest to the True coffee shops in Thailand and Cambodia to corporate with universities, which are experts in interior design and organize the program for the students to show their talents by designing the new layout which serves the needs of the coffee lovers and the needs of the environment that the customers need for the next branch. By doing this the True coffee shops also get to promote the brand of True Coffee throughout the universities as well. Most of the respondents are also universities students.

Based on hypothesis 3, the result indicates that the significant of service quality in terms of outcome quality between Thai customers and Cambodian customers are no different. Thai and Cambodian customers have the same experiences with the True coffee shops. The feeling, the waiting, the products that the True coffee shops offered to Thai customers and Cambodian customers are the same based on the Table 6.4 the total average means of the outcome quality of Thai customers were 3.54 while the Cambodian customers were 3.42. The outcome quality must rely on the procedure measurements as an indicator of the quality of service they have

received. In order to improve and maintain the outcome quality the researcher recommends to the True coffee shop in Thailand and Cambodia to improve the quality of the shops such as the overall of what the True coffee shops provided to the customers, manage the waiting time, keep innovative by always trying to add new menus and make them different from other coffee shops. They must keep improving the quality of the products such as coffee and bakery. Timing is also an aspect of customer care. Serve drinks and bakery promptly; minimize the waiting time. Not only talk with the customers but also give an opportunity to customers to provide feedback (listen to the customers). Therefore, try to implement policy to improve the service based on specific customer comments.

Based on Hypothesis 4, the result indicates that there is a significant difference in customer satisfaction between Thai and Cambodian customers. Padma *et al*., (2009) the customer satisfaction depends on the competence of the provider to converge customer's needs, and no matter how good the services are the customers will persistently expect better service. In order to gain more customer satisfaction for both nationalities, for Thai customers, the researcher would like to recommend to the True coffee shops in Thailand to improve their service quality, by always to getting feedback from Thai customers and observing the customer behaviour every time that the customers visit the shop. Provide the best service as much as possible in order to keep the customer satisfied. Introduce the promotions as well as introduce new menus or recommend to the customers as fast as possible. As in Thailand there are many branches of True coffee shops, which can generate more of customer satisfaction of Thai customers more than Cambodian customers. For Cambodian customers, the first thing that the researcher would like to recommend is that based in Cambodia, it is a standalone shop, there is an opportunity for True telecommunication to expand business to Cambodia or the True coffee shop in Cambodia should cooperate with any Cambodian local telecommunication service in order get links to the True coffee shops. Also the True coffee shops in Cambodia should consider expanding more branches in order to gain more attention and more convenience for Cambodian customers to find, provide the best service as much as possible to the Cambodian customers based on Cambodian customers who are not really familiar with the True coffee brand. In order to gain a higher level of customer satisfaction, they need to get feedback to encourage the customers to give their feedback and to share their opinions about their experience while using this service. This will help the True coffee shops of both countries to improve and develop service to serve the customers' needs. The study results can help the True coffee shop to improve in the areas where it is lacking. It can improve by motivating its employees so that the rest of the customers also could feel maximum satisfaction.

Based on Hypothesis 5, the result indicates that there is a significant difference in word of mouth between Thai customers and Cambodian customers. This doesn't necessarily mean from the shop critics and the usual media channels, but also from word of mouth via the people that matter to the customers. In order to increase the word of mouth for both nationalities, the researcher would like recommend to the True coffee shops in Thailand to provide some special privileges such as sending birthday vouchers on customers' birthdays to reward them, which can motivate them to have a good value perception and also create a positive WOM (word of mouth) This means they will talk about the True coffee. Try to control from all the mass media because in Thailand there are many branches of the True coffee shops, which can be difficult to follow up with the post from the customers through their own social media. The researcher would like to recommend the True coffee shop in Cambodia, to focus on the social media by responding quickly to questions and set up promotions more often such as buy one get one for free, in order to create more word of mouth. Invite Cambodian celebrities to experience the True coffee shop in order to create an image for the shop. Have a unique selling point that sets them apart from other coffee shops. By having promotions and events, nothing brings a smile to customers more than the opportunity to save some money when they buy drinks. The more positive word of mouth from satisfied customers, the more customers will purchase the products or use the service of the True coffee shops, while negative word of mouth from dissatisfied customers can affect the number of purchases or use of services of the True coffee shops

Based on the Hypothesis 8, the result indicates that there is a significant relationship between customer satisfaction and word of mouth of Thai customers. The researcher would like to recommend to the True coffee shops in Thailand to build more customer satisfaction and order to create positive word of mouth. At any moment, an unhappy customer can share their opinion through social media and the web that negatively affects the business. That is why it is even more important than ever to create an excellent experience for the customers to help develop customer satisfaction. From the results it is quite clear that the True coffee shops in Thailand should solidify the relationship between customers and the shops such as treat the customers in the right way and respect the customers.

Based on the Hypothesis 9, the result indicates that there is a significant relationship between customer satisfaction and word of mouth of Cambodian customers the researcher would like to recommend to the True coffee shops in Cambodia to build more customer satisfaction and order to create the positive word of mouth. Even though there is a positive relationship between customer satisfaction and word of mouth of Cambodian customers but from the True coffee shop in Cambodia also have to straighten the relationship with the customers such as always listen to the customers, hear what the customers are saying, continue to satisfy by offering on going support and make them feel special

Based on Hypothesis 6, the results indicate that service quality in terms of interaction quality; physical environment quality and outcome quality are influence on customer satisfaction of Thai customers. Based on Table 5.27 show that interaction quality and physical environment are negative, the researcher would recommend to the True coffee shops in Thailand to improve based on the results from the regression coefficient at standardized coefficients the beta (B) of interaction quality is equal to -.076, meaning that the Thai customers are not happy with the interaction quality of the True coffee shop, the researcher would recommend to improve the quality of interaction between customers and the True coffee's staffs such as try to remember the loyal customer's name by calling their name with a greeting and willing to recommend new menus and promotions to the customers before the customers ask meaning more friendliness and respond quick to the customers. Also the True coffee shops in Thailand should spend more for their staff such as salary, benefits and training costs to ensure the staff could provide a better service to the customers. Using a standardized process to make the operation flow and more speed. The beta (B) of physical environment quality is equal to -.217 meaning that the Thai customers also not satisfied with the physical environment quality of the True coffee shop, the researcher would like to recommend improving the store to be more modern looking in terms of layout and visuals to make it more appealing. And the beta (B) of outcome quality is equal to .865 and the constant equal 1.657.Hernon (2001) argues that satisfaction and service quality provide a conceptual framework that should prove useful in understanding, thinking, and talking about the service quality and customer satisfaction, what they are, how they are shaped and how a subject can involve both internal, controllable forces and external, uncontrollable factors.

Based the Hypothesis 7, the results indicates that service quality in terms of interaction quality, physical environment quality and outcome quality are influence on customer satisfaction of Cambodian customers. From the regression coefficient at standardized coefficients the beta (B) of interaction quality is equal to .202. The beta (B) of physical environment quality is equal to .326; the beta (B) of outcome quality is equal to .243 and the constant equal .711, meaning that the level of satisfied of Cambodian customers are not that high, the researcher sees that there is an opportunity for expending the True telecommunication to Cambodia market, as there is the positive connection between True telecommunication and the True coffee shops. Also recommend to the True coffee shop Cambodia, if the True coffee would like to gain more customer satisfaction then they should improve more the service quality of all dimensions such as interaction quality with Cambodian customers, physical environment quality and outcome quality in order to gain more customer satisfaction.

Based on Hypothesis 10, the result indicates that service quality in terms of interaction quality; physical environment quality and outcome quality are influence on word of mouth of Thai customers. From the regression coefficient at standardized coefficients the beta (B) of interaction quality is equal to -.136. The beta (B) of physical environment quality is equal to -.301; the result show negative, the researcher would like to recommend to the True coffee shops in Thailand to focus and improving the interaction quality and physical environment quality as mentioned in the hypothesis 6 in order to create positive word of mouth, in Thailand there are many premium coffee shops that can provide a better interaction quality and physical environment to Thai customers than the True coffee shops meaning that the customers have many choices. But the beta (B) of outcome quality is equal to 1.015 and the constant equal 1.620. The researcher would like to recommend to the True coffee shops in Thailand to maintain the outcome quality based on the level of the outcome quality is really good; it can be that even though there are many choices for Thai customers but because of the True telecommunications it makes the outcome quality positive.

Based on Hypothesis 11, the result indicates that service quality in terms of interaction quality; physical environment quality and outcome quality are influence on word of mouth of Cambodian customers, from the regression coefficient at standardized coefficients the beta (B) of interaction quality is equal to .232. The beta (B) of physical environment quality is equal to .266; the beta (B) of outcome quality is equal to .578 and the constant equal to -.311. In order to gain more positive word of mouth, the researcher would like to recommend to the True coffee shops in Cambodia to improve more on the service quality in order to get the positive word of mouth and reconsider about expanding the True telecommunication to Cambodia or cooperate

with any Cambodia local telecommunication in order to have links between the True coffee and telecommunication that can create more positive word of mouth

6. Further Study

Consider studying about the comparison between the True coffee shops with other coffee shops such as the Starbuck in Thailand, and the Brown coffee shops, which is one of the famous local coffee shops in Cambodia, in order to know the strengths and weaknesses of the True coffee shop. Additionally, the further research should collect data that involve more stores Moreover, extending this research on other food and beverage businesses and so on. In this study focus on Thai customers and Cambodian customers for further research can examine other nationalities in which animosity might play a role in customer satisfaction and word of mouth.

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A study of Factors Affecting Customer loyalty towards XYZ steak restaurant at ABAC Huamark branch, Bangkok, Thailand

Ying wang

Abstract

This research is studied about the factors that affecting *customer loyalty*, such as *service quality dimensions, customer satisfaction*, and *customer perceived value* towards Jeffer Steak restaurant in the ABAC HuaMark branch. The research was conducted in Bangkok, Thailand. The data were acquired from 400 respondent questionnaires and analysed by using the Statistical Package for Social Science (SPSS). Pearson's correlation coefficient and partial correlation coefficient were applied to test the five hypotheses. From the results, the researcher found that Jeffer steak restaurant has a strong positive relationship between customer satisfaction and customer loyalty. At the same time, *service quality* significant influence *customer satisfaction* and *customer perceived value*. Many empirical researchers supported the findings.

Customer loyalty; customer satisfaction; perceived value; service quality; restaurant industry

1. Introduction

Nowadays more and more people are too lazy to cook at home, but dine out (Unilever Food Solution, 2011). Even though there is a large demand in the restaurant industry, competition in the restaurant industry is still very high. *Customer loyalty* has become the top important factor for companies that aim to maintain or expand the in market share and profitability (Jacoby and Kyner, 1973). Several researchers mention that to maintain existing customers will be more effective and efficient than attracting new customers (Kotler, 2003) because the costs of attracting new customers is not cheap. The aim of those studies is useful for service providers because *service quality* and *customer satisfaction* will lead to repeat purchase and positive word of mouth, which will bring more new customers and maintain existing customers. *Perceived value* is the customer's overall assessment of the quality of a product or service based on the comparison of what is given and what is received. In this study, the researchers will explores the various factors that affect *customer satisfaction* and *customer loyalty* in Jeffer restaurant. The target population of this study is both Thai and foreign customers, both males and females who have been to Jeffer restaurant in ABAC HuaMark branch. First of all, Jeffer is a very popular local steakhouse restaurant specializing in beef and steak dishes that have nearly 80 branches nationwide. It aims to provide fresh and delicious food to customers along with a comfortable and relaxing atmosphere. Second, since Jeffer was established in 2010, Jeffer has quickly established itself as a leader among teenagers and young adults with quality Western style meals at an affordable price. Third, a new strategy is an integrated Lifestyle& Entertainment restaurant.

2. Research objective

The purpose of this study is to know how *service quality, perceived value*, and *customer satisfaction* influences *customer loyalty*. The objectives of this study are as follows:

- First point examines the factors on *service quality dimensions* influence *consumers perceived value* towards Jeffer restaurant.

- Second point examines the factors on under *service quality dimensions* influence *customer satisfaction* with Jeffer restaurant.
- Third point examines the *service quality dimensions* influencing *consumer loyalty* with Jeffer restaurant.
- Forth point study the *perceived value* influencing *customer satisfaction* in Jeffer restaurant.
- Fifth point examines the *perceived value* and *customer satisfaction* influence on *consumer loyalty* with Jeffer restaurant.

3. Literature review

3.1 Service quality dimensions

Zeithaml et al. (1988) stated that service quality is customers' overall evaluation about service performance. Similarly, Parasuranman et al. (1998) stated that *service quality* is customers' attitude toward the performance of the total excellence or superiority service of a product.

3.1.1 Interaction quality

Yan (2000) defined *interaction quality* as the relationship between the restaurant and customer and the increased interactivity between restaurant and customers can enhance the customized products and services to fulfil customers' individual specific demands. According to Bitner et al. (1992), the employee's interpersonal skills of a restaurant can also impact customer satisfaction too.

3.1.2 Food quality

Food quality includes many aspects such as menu variety, color, size, shape, consistency, safety, freshness, nutrition, and aroma, etc. both cooked food at home and cooked food in the restaurant, food safety is very important, especially in a restaurant because it can affect many people. Cronin et al. (2000) stated that food safety in the restaurant industry is very important.

3.1.3 Facility quality

Nguyen and Leblanc (2002) defined *facility quality* as the environment and atmosphere of the restaurant that has a significantly positive impact for new customers' perceived value and customers revisit intentions. Good facility management can play an important role to help the manager increased the efficiency and reduced costs.

3.1.4 Product quality

Product knowledge is an important position among consumer behavior. So, it is important to study this variable in this research. According to Bolton and Drew (1991), product knowledge consists of perceived knowledge, objective knowledge, and experience-based knowledge.

3.2 Customer perceived value

Swaddling and Miller (2002) defined *customer perceived value* is previous judgment before they think about all the benefits and all the costs of a restaurant. Miller (2003) said that *customer perceived value* could provide more detailed information for companies to improve their ability to make better and reduce the uncertainty of business rather than *customer satisfaction*. Also, Zeithaml et al. (1988) stated that *customer perceived value* as customers' overall evolution of the product or service compared to perceptions of what is received and what is given.

3.3 Customer satisfaction

It is customers' fulfillment response like an evaluation based on emotional response to a product or service (Rust and Oliver, 1994). It's a sign of customers' favorable attitude for a product or service. Oliver (1980) stated that *customer satisfaction* is a result that after the prior feeling about the consumption experience,

whether the result is satisfied or not. Similarly, Oliver (1997) stated *customer satisfaction* is responses that occur after they experience a product or service.

3.4 Customer loyalty

Dabholkar et al. (1996) defined *customer loyalty* as positive word of mouth and repurchase intention that customer is willing to recommend the product/service to others and willing to repurchase in the future. Jacoby and Kyner (1973) stated the *customer loyalty* both as a behavioral approach and an attitudinal approach. Westbrook (1987) defined that the willingness to recommend to others will include the experience, usage, or characteristics of the product or service.

4. Related literature review

4.1 The relationship between service quality dimensions and perceived value

Zeithaml (1988) stated that *service quality* is a predictor of customer perceived value. Raza et al. (2012) emphasized that the relationship between *service quality, perceived value*, and *satisfaction* in the restaurant industry is positive. Chow et al., (2007) studied the relationship between *service quality, customer satisfaction*, and *perceived value* of full-service restaurants. They found that *interaction quality*, physical quality, and outcome quality are the main factors that influence *service quality*.

4.2 The relationship between service quality dimensions and customer satisfaction

Service quality is a key antecedent and an important factor that impacts on *customer satisfaction* in many literatures. Lockyer and Tsai's (2004) studied another measurement with a slightly different approach, which is categorized into four dimensions: *interaction quality, facility quality, food quality*, and *product knowledge*. In addition, Hofstede (1991) found that females focus on interpersonal relationships with service providers more than males.

4.3 The relationship between service quality dimensions and customer loyalty

Dulen (1999) stated that menu variety, the restaurant layout, and *food quality* are the key factors influencing repurchase intention and positive word-of mouth. Moreover, in order to improve *customer loyalty* by improving customer repurchases intention, Soriano (2002) suggests increasing the variety of food such as different tastes or different styles can be a good way. For Dulen (1999), the first concern of customer is cleanliness followed by service. Dube et al., (1994) also stated that consistent food taste, atmosphere, an efficient employee, and food variety are the major factors influence revisit intention and customer loyalty.

4.4 The relationship between perceived value and customer satisfaction

Several researchers have stated that *customer perceived value* has been widely accepted to be a reliable predictor for the impacts of *customer satisfaction* and *customer loyalty*, which leads to repurchase intention and positive word-of-mouth (Chiou, 2004; McDougall and Levesque, 2000). According to Andreassen and Lindestad (1998), *customer perceived value* has a positive relationship with *customer satisfaction* within the service industry. Even in the new trend Internet service industry, *customer perceived value* still be the important factor to influence *customer satisfaction* (Chiou, 2004).

4.5 The relationship between perceived value, customer satisfaction, and customer loyalty

Numerous studies confirm the positive and direct relationship between *customer satisfaction* and *customer loyalty* (Han and Ryu, 2009; Kim et al., 2009; Kivela et al., 1999; Namkung and Jang, 2007; Oliver, 1999; Ryu et al., 2010; Ryu and Han, 2011). Kivela et al. (1999) mention that dining satisfaction significantly

influenced post-dining behavioral intentions and *customer loyalty* toward the company. Moreover, for the mid-to-upscale restaurants, Namkung and Jang (2007) stated that there is a positive relationship between *customer satisfaction* and *customer loyalty.*

5. Conceptual framework
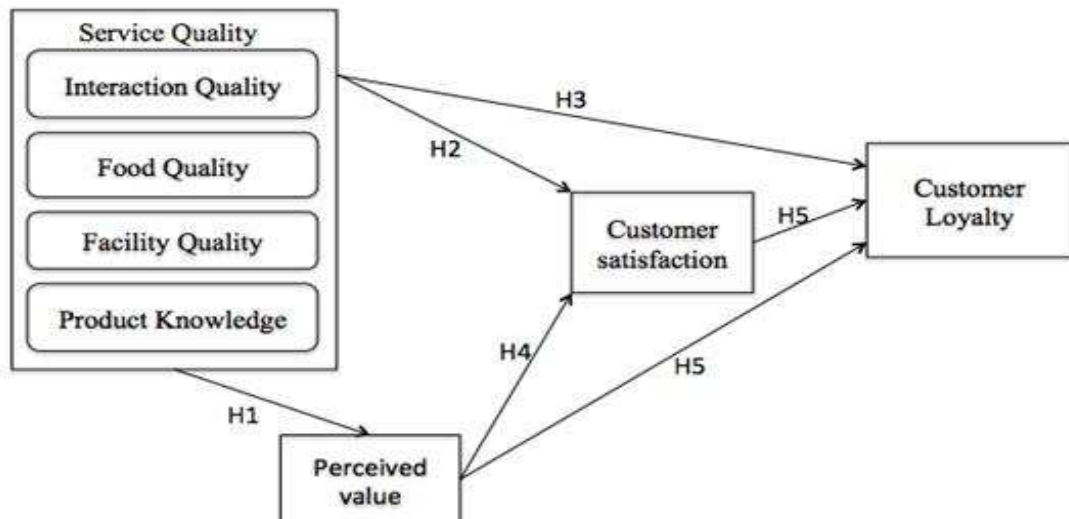
6. Research hypotheses

H1o: *Service quality* in terms of *interaction quality, food quality, facility quality,* and *product knowledge* are not influence on *perceived value.*

H1a: *Service quality* in terms of *interaction quality, food quality, facility quality,* and *product knowledge* are influence on *perceived value*.

H2o: *Service quality* in terms of *interaction quality, food quality, facility quality,* and *product knowledge* are not influence on *customer satisfaction.*

H2a: *Service quality* in terms of *interaction quality, food quality, facility quality,* and *product knowledge* are influence on *customer satisfaction*.

H3o: *Service quality* in terms of *interaction quality, food quality, facility quality,* and *product knowledge* are not influence on *customer loyalty.*

H3a: *Service quality* in terms of *interaction quality, food quality, facility quality,* and *product knowledge* are influence on *customer loyalty*.

H4o: *Perceived value* is not influence on *customer satisfaction.*

H4a: *Perceived value* is influence on *customer satisfaction.*

H5o: *Perceived value* and *customer satisfaction* are not influence on *customer loyalty.*

H5a: *Perceived value* and *customer satisfaction* are influence on *customer loyalty.*

7. Methodology

In this study, the researcher has applied the most suitable approach, which is descriptive research for this study. Churchill (1999) stated that descriptive research is used to evaluate a group of people in a specific population who behave in a certain way. Zikmund (2003) also mentioned that descriptive research is necessary to define market segmentations, which explains the characteristics of a population and also defines who, what, when, and how questions. Zikmund (2003) stated that in order to check how strongly they agree or disagree with the constructed statement that range from a very negative attitude to very positive attitude, the five-point Likert scale is a good choice. Hair (2000) also stated that five-point Likert scale is a cognitive-based scale measurement that asks respondents to indicate the extent to which they agree or disagree with a series of statement about a specific object.

8. Data collection

Zikmund (2009) defined behavioural observations; interviews and survey questionnaire are methods that we used to collect data. This study used both primary and secondary data to collect the data. Churchill (1999) stated that the primary data is the data gathered and assembled specifically for the specific research project. The researcher distributed the questionnaire to Jeffer restaurant's customer in ABAC Hua Mark campus branch, who are available to answer the questions to find out the impacting factors of Jeffer' customer loyalty. Zikmund (2003) also mentioned that a distribution questionnaire is a survey technique that is the most widely accepted for collecting data in business research because it provides a quick, inexpensive, efficient and accurate means of assessing information about a population. The 400 questionnaires were used for collecting information from a sample of the target population who are male or female, who are convenient to answers the questionnaires from June 15 – July 31, 2015.

9. Findings

Table 1: Summary of Hypothesis testing results

Null hypothesis description	Beta Coefficient	Significance	Results
H10: Service quality dimensions are not influence on perceived value			Reject
-Interaction quality	.381	.000	
-Food quality	.022	.000	
-Facility quality	.183	.647	
-Product knowledge	.310	.000	
H2o: Service quality dimensions are not influence on customer satisfaction			Reject
-Interaction quality	.381	.000	
-Food quality	.396	.000	
-Facility quality	.196	.000	
-Product knowledge	.321	.000	
H3o: Service quality dimensions are not Influence on customer loyalty			Reject

-Interaction quality	.544	.000	
-Food quality	.174	.003	
-Facility quality	.388	.000	
-Product knowledge	.366	.000	
H4o: Perceived value is not influence on customer satisfaction	.955	.000	Reject
H5o: Perceived value and customer satisfaction are not influence on customer loyalty			Reject
-Perceived value	.142	.016	
-Customer satisfaction	.888	.000	

10. Discussion

Based on the hypothesis testing results, *service quality* dimension had the positive influences on *customer perceived value, customer satisfaction,* and *customer loyalty*. Moreover, those variables influenced each other also. Since the significant value is less than 0.05, all null hypotheses are rejected. The details are as follows:

Based on hypothesis 1 to 3, interaction quality has the highest beta value at .544, which means that *interaction quality* is the strongest factor under *service quality* to influence *customer perceived value*. And *food quality* has the highest beta value .396, which means that food quality is the strongest factor under *service quality* to influence *customer satisfaction*.

Based on hypothesis 4, the researcher can find that *customer perceived value* has a very high beta .955, which means that *customer perceived value* very strongly influences *customer satisfaction*.

Based on hypothesis 5, *customer satisfaction* has the higher beta value of .888, which means that *customer satisfaction* is the stronger factor to influence *customer loyalty* at Jeffer restaurant ABAC branch.

11. Recommendation

According to hypothesis H1 to H3, *interaction quality* has the highest beta coefficient with .381, which influences *customer perceived value*. Therefore, Jeffer Steak Restaurant should know that *interaction quality* is the most important factor that they should focus on and improve it in order to improve *customer perceived value*. The researcher would like to suggest that Jeffer restaurant should train their employees to improve their personnel service skills in order to build a strong relationship between customers and the restaurant. Such as training employees provide prompt and quick service with passion, training employees knows very well about the dishes on the menu, and training employees have a good communication skill. Jeffer manager also should use better food quality control system to make sure the food is always fresh and consistent in taste. Bitner et al. (1985) also stated that the interpersonal communication between employees and customers has the greatest effect on the perception of *service quality*.

According to hypothesis H4, *customer perceived value* has the beta coefficient of .955 that strongly influences *customer satisfaction*. The researcher would like to suggest that the manager could do advertising on popular food websites, on social media, or in magazines to expand the brand image and brand awareness, create a more attractive interior and exterior looking, and manager should try to maintain the high quality employees.

According to hypothesis H5, *customer satisfaction* has the higher beta coefficient with .888, which influences *customer loyalty*. The researcher would like to suggest that Jeffer restaurant should improve their *customer satisfaction* by better and consistent food quality, better and consistent trained personnel service skills, and more attractive design. Such as get feedback from customer directly, or using the rewarding program to pull the *customer loyalty* into a higher level. Burton et al. (2003) also stated that there is a strong relationship between *customer satisfaction* and behavioural intention. *Customer satisfaction* can lead to *customer loyalty* and positive word of month.

12. Further study

In order to provide some development based on this research, the researcher would like to give some suggestions for other researchers who want to study *customer loyalty* in the restaurant industry.

First of all, the researcher would like to add more independent variables that may influence *customer loyalty,* such as price, brand image etc.

Second, the researcher can study more branches in Bangkok or other restaurants in any country. On the other hand, the researcher can choose a specified nationality to study their consumer behaviour towards the restaurant industry.

Third, the researcher can apply different theories, such as studying customer satisfaction or brand reputation.

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The Impact of Trust, Customer Satisfaction, Service Quality and Perceived Value on Repurchase Intention towards Apple iPhone users in Bangkok, Thailand.

Vishakha Rai and Sirion Chaipoopirutana

Abstract

The topic of this research study is "The Impact of Trust, Customer Satisfaction, Service Quality and Perceived Value on Repurchase Intention towards Apple iPhone users in Bangkok, Thailand." In this study, the researcher has applied the Pearson correlation coefficient and Multiple regression methods to find out the relationship among the variables: trust, customer satisfaction, service quality, perceived value and repurchase intention in which the first four variables: trust, customer satisfaction, service quality and perceived value are the independent variables whereas repurchase intention is the dependent variable. The sample sizes of 400 questionnaires have been distributed by using the 5-point Likert scale method. To analyze the data, the researcher has applied the statistical software program. The researcher has found that all hypotheses have moderately positive relationship with the variables.

Keywords: Repurchase Intention Trust Customer Satisfaction Service Quality Perceived Value

1.Introduction

Repurchase Intention is a person's determination of rebuying a product or service and being decided to enlist in the company's forthcoming services (Hellier et al., 2003; Zeithaml et al., 1996). This study found out that customer satisfaction is critical in business success and it can affect repurchase intention positively (Fang et al., 2011). In addition, a research outcomes pointed out that trust has a strong relationship with customer satisfaction, and repurchase intention is mostly influenced by customer satisfaction (Fang et al., 2011). According to Hume et al. (2010), the study shows that perceived value can influence customer satisfaction in the context of performing arts.

This research finds out how trust, defined as the customers' acceptance and eagerness for sellers' products and services (Mayer et al., 1995); customer satisfaction, defined as the buyer's knowledge of the product's superior value (Kotler et al., 2000); service quality, defined as a person understanding of the service employees' delivered quality (Zeithaml et al., 1988) and perceived value, defined as the customer's perception towards the comparison of what is being gained in relative to what is being paid (Zeithaml et al., 1988); repurchase intention, which is defined as a buyer intention to repurchase the product repetitively (Fang et al., 2011) in the context of a mobile and smartphones devices, specifically iPhone from the Apple company. There are iPhone users switching to other brands or platforms such as Samsung, LG, HTC, Nokia, Windows, etc. Also, some users from other brands switch to iPhone. So, this research is going to be useful to know the repurchase intention of iPhone users because a new iPhone model is released every year and other brands are doing this as well at a faster rate in the mobile phone industry.

1.1 Research Objectives

1. To study the relationship between trust and customer satisfaction.

2. To study the relationship between service quality and customer satisfaction.

3. To study the relationship between service quality and perceived value.

4. To study if trust has an influence on repurchase intention.

5. To study if customer satisfaction has an influence on repurchase intention

6. To study if service quality has an effect on repurchase intention.

7. To study if perceived value has an influence on repurchase intention.

2. Literature Review

2.1 Theory

2.1.1 Repurchase Intention:

Repurchase intention is a customer's possibility to repeat purchasing a product from the same shop in the future.

Zeithaml et al. (1996) defined repurchase intention as the willingness to pay cash for products. Moreover, Hellier (2003) and Zeithaml (1996) defined repurchase intention as a person's determination and acumen in rebuying a product and luxuriating a service.

2.1.2 Trust:

Trust is specified as the eagerness of one person's accountability towards the other person's conduct based on the belief that the particular person will carry out the task substantially regardless of the capability of that person (Mayer, 1995). Therefore, it is considered one of the most specific independent variables along with others (Gefen, 2003).

Pavlou and Fygenson (2006) defined trust as an individual assumption of a seller's pleasant, decent and adroit actions.

2.1.3 Customer Satisfaction:

According to Hellier et al., Geursen et al., Carr et al., and Rickard et al., (2003), customer satisfaction is long-term happiness and gratification followed by the perception of a service and the usage of a product that score customers inclinations and love.

Kolter (2000) defined satisfaction as the customers' gratification perception and contentedness arising from the contrast of their anticipations and actual results.

2.1.4 Service Quality:

Service quality is a comprehensive knowledge regarding to excellence and supremacy of the service (Zeithaml and Bitner, 2003). Service quality implies that the opinion of the service offered by the seller meets the buyers' predictions which include the act of effectiveness in answering the questions that buyers' ask along with respecting their privacy (Parasuraman, 2005).

Zeithaml (1988) defined service quality as the overall evaluation of the product's performance.

2.1.5 Perceived Value:

Perceived Value is a person's observation and comparison of their prospects and actual gain. Having better knowledge of buyers' assumptions could be beneficial in terms of customer satisfaction and therefore repurchase intentions (Molinari, Abratt and Dion, 2008). Perceived Value is the crucial outcomes for products or service promotions. If a product successfully creates a top value in the customers' mind, it will be unable to restrain customers' to come forward to reuse the product in the future (Hume, 2008).

2.2 Related Literature Review

2.2.1 Relationship between trust and customer satisfaction

According to previous research, trust has a positive relationship with customer satisfaction (Lin and Wang, 2006). Trust is also defined as buyer believe that seller treats them ethically and kindly (Pavlou and

Fygenson, 2006). Following the theory of planned behavior (Ajzen, 1991), in order to increase a customer's repurchase intention, favorable feelings from trust and beliefs must be created.

2.2.2 Relationship between service quality and customer satisfaction

Service quality has a positive influence on customer satisfaction (Edward and Sahadev, 2011). According to Heskett et al., 1997, if a company has a tendency to provide best quality of service at a fair price to its customers then it also has the power to satisfy those customers. Satisfaction is customer fulfillment and happiness after using a product and service (Hellier, Geursen, Carr and Rickard, 2003).

2.2.3 Relationship between service quality and perceived value

The measurement of substantial performance and operation of a product with the speculated performance creates the perceived value of a product and the perceived value of the product positively increases as the quality of the product increases significantly (Hume and Mort, 2008 and Caruana, 2000). Zeithaml et al. (1988) suggested that service quality leads to perceived value. Internal core features, external features and prices were all found to positively contribute to service quality.

2.2.4 Relationship between trust and repurchase intention

Trust plays a major role in developing repurchase intention (Weisberg, 2011, Zboja and

Voorhees, 2006). Fang, Chiu and Wang (2011) found that trust had a positive and essential impact on repurchase intention. According to a research done by Chie et al. (2009), concluded that trust had a major role to motivate customers to rebuy the product.

2.2.5 Relationship between customer satisfaction and repurchase intention

Customer satisfaction builds the customers' intention to rebuy the product, which is advantageous for the company in terms of earning a high profit margin (Thurau and Klee, 1997). With repurchase intention, customers continue to purchase again from a firm and attract more customers via positive word of mouth. Thus, customer intent on following service encounters, especially with engaging in repurchase and/or positive word of mouth transmission (Anderson, 1998 and Oliver, 1993).

2.2.6 Relationship between service quality and repurchase intention

Better service quality can inflate the customers' buying intentions including repurchase intention Boulding et al. (1993), Zeithaml et al. (1996), Bloemer et al. (1999), and Keillor et al. (2007). Service quality has displayed a positive effect on the behavior of repurchase intention of the people in the sports business (Hill and Green, 2000; Matsuoka, 2003; Trail, 2003; Dale, 2005; Tsuji, 2007; Theodorakis and Alexandris, 2008).

2.2.7 Relationship between perceived value and repurchase intention

According to Hume et al. (2008), perceived value is one of the most significant predictors of repurchase intention. She further explained that consumers would eventually be attracted towards products in terms of buying if the product has a high perceived value. Perceived value has a positive impact on repurchase intention (Lee, Eze and Ndubisi, 2010).

3. Conceptual Framework
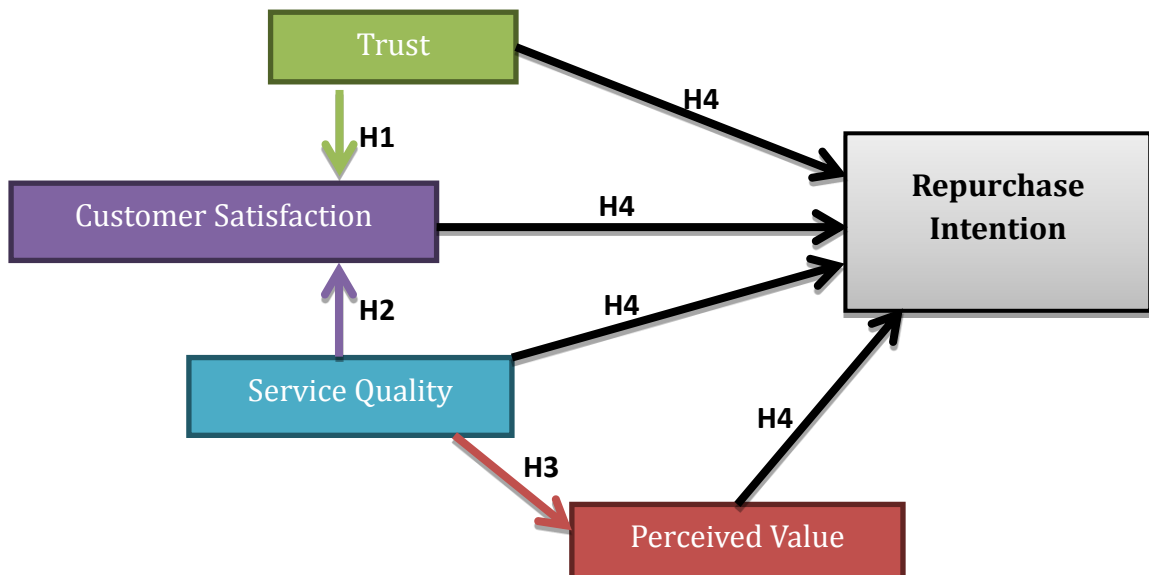
3.1 Hypotheses

$H1_0$: There is no statistically significant relationship between trust and customer satisfaction.

$H1_a$: There is a statistically significant relationship between trust and customer satisfaction.

$H2_0$: There is no statistically significant relationship between service quality and customer satisfaction.

$H2_a$: There is a statistically significant relationship between service quality and customer satisfaction.

$H3_0$: There is no statistically significant relationship between service quality and perceived value.

$H3_a$: There is a statistically significant relationship between service quality and perceived value.

$H4_0$: Trust, customer satisfaction, service quality and perceived value do not influence repurchase intention.

$H4_a$: Trust, customer satisfaction, service quality and perceived value influence repurchase intention.

4. Methodology

Descriptive research is a research method in which the researcher focuses on features and aspects of the people, community and organization (Zikmund, 2010). In this research, the researcher has conducted the study in the capital city of Thailand, Bangkok. The research has collected the data by distributing 400 questionnaires in Central World, Siam Paragon, MBK, Terminal 21 and EmQuartier major department stores in the capital city Bangkok; as the five mentioned shopping malls are the most popular area and shopping destination in the year 2015 for customers in Bangkok, according to a survey administered by BANGKOK.COM (www.bangkok.com/top10-shopping-malls.htm).

A sampling procedure is a research design in which the researcher draws the consequences by measuring a group of the population (Zikmund, 2010). In this study, the researcher used the nonprobability

sampling; a sampling method to choose the sampling units because of having individual perception or comfort and accessibility (Zikmund, 2010).

4.1 Data Collection

The primary data is collected directly from iPhone users who are living in Bangkok. Data was collected from the date June 1, 2015 to August 1, 2015. Questionnaires were used to collect the primary data from 400 respondents. The target population is all the students, working professionals and people in Bangkok between the age of 18 years old and above, both females and males, who use and have ever experienced Apple iPhone in their lives.

4.2 Findings

  4.2.1 Summary of results from the hypotheses testing

Null Hypothesis Statement	Statistical Test	Correlation Coefficient	Significance (2-tailed test)	Results
$H1_0$: There is no statistically significant relationship between trust and customer satisfaction.	Pearson Correlation	.595**	.000	Rejected H_0
$H2_0$: There is no statistically significant relationship between service quality and customer satisfaction.	Pearson Correlation	.585**	.000	Rejected H_0
$H3_0$: There is no statistically significant relationship between service quality and perceived value.	Pearson Correlation	.561**	.000	Rejected H_0
$H4_0$: Trust, customer satisfaction, service quality and perceived value do not influence repurchase intention.	Multiple Linear Regression	-	.000	Rejected H_0

  4.2.2 Summary of results from the hypothesis 4 testing

Hypothesis Statement	Variables	B	Significance (2-tailed test)	Results
$H4_0$: Trust, customer satisfaction, service quality and perceived value do not influence repurchase intention.	Trust	.047	.538	Failed to be rejected H_0
	Customer Satisfaction	.577	.000	Rejected H_0
	Service Quality	-.040	.555	Failed to be rejected H_0
	Perceived Value	.427	.000	Rejected H_0

5. Discussions

Based on the results of the descriptive analysis of the demographic factors, the researcher found out that most users are female and purchasers of iPhone in Bangkok who are within the age group of 18-28 years old and usually single, have a master's degree and an income level of less than 20,000 Baht per month and have a higher repurchase intention towards iPhone.

Based on the result of hypothesis one, the researcher found out that there is a positive relationship between trust and customer satisfaction at the 0.01 significance level. At .595**, it shows that there is moderate relationship between trust and customer satisfaction.

Based on the result from hypothesis two, the researcher found out that there is a positive relationship between service quality and customer satisfaction at the 0.01 significance level. At .585**, it means that there is moderate relationship between service quality and customer satisfaction.

Based on the result of hypothesis three, the researcher found out that there is a positive relationship between service quality and perceived value at the 0.01 significance level. At .561**, it shows that there is moderate relationship between service quality and perceived value.

Based on the result of hypothesis four, the researcher found out that at least one independent variable out of trust, customer satisfaction, service quality and perceived value will influence the repurchase intention at the .05 significant level. At .000 both variables customer satisfaction and perceived value have an influence on repurchase intention whereas at 0.538 and 0.555, trust and service quality do not have influence on repurchase.

5.1 Recommendations

The company should add more attributes and beneficial features into the product and should be offering the same price that could forge trust in their minds and eventually it will lead to their satisfaction. In order to form trust, the company should apply content marketing as a marketing technique. Other than that, the company should add more testimonials in the Apple Inc. website, so that people can read what popular personalities are saying about the product. Finally, the company should also believe in transparency by introducing customers to their team members to create trust among the users.

The company should hire employees who are extremely caring towards people and have great technical knowledge about the product, so that they can efficiently assist on-lookers in the retail shop. The company should train their employees to be gentle and humble in front of their buyers. The company's human resource management should conduct proper training sessions for their customer service employees on how to behave in a satisfactory manner. The company should also be assured their working staffs are getting a good salary and perks that would motivate them to work nicely.

The company should be finding better new ways in an attempt to satisfy customers' demands and willingness towards the iPhone. They should launch the next iPhone, iPhone 7 at a better price, most probably at a fairer price than the current one iPhone 6 and iPhone 6 plus. In order to arouse perceived value among consumers, the company should market their product effectively by exhibiting the product's unique benefits and features. The company can also have an influential celebrity or sports star to endorse their products that would generate a sense of excitement among people to rebuy the product.

Furthermore, the company should focus more on the youth population and should launch the new versions with innovative and cool features that would be appealing to them. This will embolden the youth iPhone users to repurchase the latest version. Hence, amplified sales growth would increment high profit margins for the company.

5.2 Further Study

In order to gain a broader and deeper knowledge of related subjects, this framework and concept can be applied for further studies. In this study, the researcher has specifically focused on the city of Bangkok in Thailand. For further studies it can be conducted in various major cities of Thailand, such as Chiang Mai, Chiang Rai etc. The study can also be developed in other popular cities of South East Asia such as the capital

city of Vietnam, Hanoi; other cities such as Ho Chi Minh City; other countries like Singapore, Malaysia where a huge number of smartphone users have been escalating significantly in the last few years.

In this study, the researcher has only taken the four independent variables trust, customer satisfaction, service quality and perceived value. For further studies, few more variables, such as buyers' attitudes, the product quality of the Apple iPhone company and retail shops and many more can be added to analyze and study how much these variables influence consumer intention to rebuy the Apple iPhone products.

Since this study particularly focuses on Apple iPhone products, it can be applied to other Apple products such as iPod, Mac, iPad or the brand Apple as a whole. Moreover, the framework and theory can also be applied to different brand products such as Samsung, Nokia as well.

Finally, the other companies and multinational corporations can implement the concepts, theories and insights into their business strategies to increase sales and high profit margins to meet their goals, missions and vision.

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SMART MONET EFFECT OF RMF AND LTF FLOWS

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Abstract

This study examines the mutual fund selection ability of investors in Thailand which calls "Smart money effect" Using the open-end domestic equity fund in Thailand between 2004 and 2015.The results indicate that the smart money effect don't appear in the overall investor in Thailand. By the way, this paper separate the group of mutual fund into LTF, RMF (mutual fund which have individual tax benefit) and OTHER (mutual fund which don't have individual tax benefit). After separate the group of investors in each type of fund, it shows that the Smart money effect appear in the OTHER group, that is, they are able to move their money into(out of) the future good(poor) performance. On the other hands, The dumb money effect is appear in the group of fund which have the individual tax benefit. This results are important to provide the useful information for regulators to review their rule and to remind the LTF,RMF investors to care about their portfolio return.

1.Introduction

In this age, Thailand mutual funds play an important role in the financial market. Data from morning star Thailand show that in the year 2015, mutual fund asset is about 3.8 trillion baht and it is the portion around 0.25 percent in the SET's market. In 2004, the Government of the Kingdom of Thailand established a special investment scheme which provides a significant tax reduction for any person with taxable income in Thailand, in return for making a minimum five-year investment in one or more specialized funds set up and managed by Thailand based money management firms. There are 2 types of fund such LTF and RMF. For LTF, the full tax advantage of investing in an LTF the investment must be held for at least five years calendar and can't be withdrawn without incurring substantial early withdrawal penalties. RMFs are identical to LTFs with the exception that withdrawals made prior to the taxpayer's 55th birthday are subject to substantial penalties, making investment in these funds most attractive to investors who are nearing or past their 50th birthday.

Although LTF and RMF funds force their investor to be the long term investor but LTF and RMF allow the investor to reinvest in the different fund in their group. Ex, LTF can reinvest in LTF and RMF can reinvest in RMF. However, LTF and RMF have the special obligation which is when the LTF and RMF investors reinvest the LTF and RMF in the different firm, they need to pay for the switching fee (the switching fee for each firm is different).

For the past decade, it shows that RMF and LTF's total net asset have increased sharply from 12.24 billion Baht to 166.290 billion Baht and 5.63 to 271.023 billion Baht respectively. So, what type of investors who invest in these kinds of funds? , It's seem that many LTF and RMF investors tend to invest in LTF and RMF for the Tax-exempt only and they don't remind that which fund is provide the good return. Then, it can say that LTF and RMF investor don't have the timing and selecting ability and "Smart money effect" call this investor as "Dumb investor". So, due to this reason and the LTF , RMF fee characteristic. These can lead to interesting research question that are "Do LTF and RMF investors are Dumb investor in the Smart money effect? Gruber (1996)"

What is "Smart money effect"? Answer is the situation that investor can invest in the good fund and quit from the bad fund and call this investor as "Smart investor". So, "Dumb investor" is the investor that do the reverse investment style with "Smart investor".

The recent paper tries to study whether investors are smart enough to identify and invest in the out-performing fund. Gruber (1996) has called this phenomenon as Smart money effect. After that, Zheng(1999) has confirmed this effect and in 2008, Keswani and Stolin are re-examined these by use the data set from UK. Gruber(1996) and Zheng(1999) find that the out-performing funds are invested by a group of specialize investors. Interesting that Gruber (1996) has pointed out the future research in these areas by distinguishing a group of investors in the various dimensions such as Tax-disadvantage, sophisticated and institutional investors. In 2014, Xunan-Feng has studied the smart money effect by separate the group of investor in institutional investor and individual investor. However, it doesn't have any papers which answer the question about Tax-advantage investors are "Smart or Dumb" and the previous research don't put the effect of fee. So, this study tries to answer this question and fulfill the research in this area.

The sample cover the on-going equity mutual fund from morning-star Thailand. This research separate fund into 3 groups such as LTF, RMF and Other and begins the research with the GT-measurement (Grinblatt and Titman 1993) to find the correlation between fund flow and future return. By the way, the GT-measure can't extend the profit of mutual fund investor. Then I adapt the Zheng (1999) trading strategy to examine the trading strategy in the LTF investors, RMF investors and Other investors. I use the expected flow to weight the portfolio in Zheng trading strategy and revise the expected flow model to capture the monthly effect due to the special characteristic of LTF and RMF mutual fund.

Many studies about Smart money effect are Gruber(1996),Zheng(1999),Sapp and Tiwari(2004),and Keswani and Stolin(2008).Gruber try to study that about the active manager can not add value. He finds the evidence that the group of sophisticated investor can identify and invest in the out performing fund and he call this phenomenon as 'Smart money effect". Then, Zheng(1999) confirm this effect and show the evident that the fund which is positive new money flow significantly outperform the negative new money flows fund and new flow into the small rather than big fundd can be used to make risk-adjust returns. By the way, Sapp and Tiwari(2004) assign the outperformance to the momentum effect(Jegadeesh and Titman(1993)) and find that the smart money effect is an return continueation. In 2008, Keswani and Stolin re-study the smart money effect by use the data set from UK and find the evidence that the new money portfolio weighted by inflows is significantly beat the portfolio weighted by outflow. They also show that the smart money effect in UK appear with the fund buying only(not selling) of both individual and institutional investors. They finally find the insignificant of smart money effect in Sapp and Tiwari(2004) to the use of quarterly data and weight. In 2014, Feng et al has studied the smart money effect by separate the group of investor in institutional investor and individual investor. They find the evidence in China that Institutional investors are the smart investor and the individual investors are the dumb investors.

This paper make second contributions. First, the typical mutual fund performance literature seen to focus about the selection ability of mutual fund manager(e.g. Jensen(1986), Grinblatt and Titman(1989), Elton,Gluber and Blake(1996),Bollen and Busse(2005)) but this paper try to examine the selection ability of investor by use the smart money effect which can reflect the result into smart investor or dumb investor. This thesis also separate the group of investor into tax-advantage investor and tax-disadvantage investor unlike the research in this area which focus to separate investor into institutional investor and individual investor or Specialist and Non-specialist investor. Second, this paper use the dataset in Thailand due to the tax exempt fund(LTF,RMF) are play the significant role in this country and the LTF,RMF are new in Thailand mutual fund market since it is established in only 10 years. So, from my knowledge, this is the new study about smart money effect of LTF and RMF in Thailand. Then, it will shade the light on what type of investors in the Thailand mutual fund market. To summarize, this paper try to fill the void and thus help us to understand the fund investor in Thailand.

2.Methodology

2.1 Sample

Collecting the data from "Morning star Direct" for the Net asset value (NAV) ,Load-adjusted return(Return which adjusted for front-end fee and back-end fee) and Total net asset value (TNA) in the monthly. The sample includes all of open-end, equity and domestic mutual fund. I exclude the remainder because the risk characteristic of these fund doesn't match with the return with I use for analysis in this paper.

To construct the cahart four factor model, this paper also use the data of set index from Thailand security market. The Period of both data sets are collected since 2004 to 2015 because The RMF and LTF were established in the year 2004 and to match the time horizon of data, the data from SET index should collect at the same period.

Table 1. Summary of domestic equity mutual funds sample

	number of domestic equity mutual funds (till April 2015)
LTF	46
RMF	33
OTHER	213

2.2 GT-measurement (Grinblatt and Titman(1993))

This measurement is used to estimate the selective ability of fund investors. The assumption of this measurement is no mutual fund selection ability. Then the correlation between the next-period expected return and flow of the fund is equal to 0. However, if the result shows the number and it is positive, it means an investor has the good selection ability due to they can increase (decrease) their weight on the out-performing fund(low-performing fund). By the way, if it is negative, it means an investor has low selection ability.

$$GT\ measure_t = \sum_{i=1}^{N} R_{i,t+1}(w_{i,t} - w_{i,t-1}) \tag{1}$$

This paper separates the GT model into 3 groups such as LTF,RMF and OTHER. Where OTHER define the domestic equity fund which exclude the LTF and RMF fund.

$$GT\ measure_{LTF,t} = \sum_{i=1}^{N} R_{LTF,i,t+1} w_{i,t} - w_{i,t-1} \tag{2}$$

$$GT\ measure_{RMF,t} = \sum_{i=1}^{N} R_{RMF,i,t+1} w_{i,t} - w_{i,t-1} \tag{3}$$

$$GT\ measure_{OTHER,t} = \sum_{i=1}^{N} R_{OTHER,i,t+1} w_{i,t} - w_{i,t-1} \tag{4}$$

Where

$w_{i,t}$ = the portfolio weight in fund i at time t

         = TNA for fund i divide by TNA of all domestic equity fund

$w_{i,t} - w_{i,t-1}$ = GT weight

$R_{i,t+1}$ = the next period return of fund i.

$R_{LTF,i,t+1}$ = the next period return of LTF i.

$R_{RMF,i,t+1}$ = the next period return of RTF i.

$R_{OTHER,i,t+1}$ = the next period return of OTHER i.

Due to this paper developed the GT-measurement of each type of investor by use the specific data for each investor. For LTF investor, GT-measurement use data only in LTF fund. For RMF investor, using data in RMF fund. And for OTHER investor, using data with exclude LTF and RMF fund. So, the data from each group is totally separated unlike the previous study which using the same data set then it can see that the GT-measurement in this paper can reflect the value of GT-measurement in each group of investor.

2.3 Unexpected flow

I follow Zheng(1999), Sapp and Tiwari(2004) and Keswani and Stolin(2008) to find the actual flow of each mutual fund.

$$Actual\ flow_{i,t} = TNA_{i,t} - TNA_{i,t-1}(1 + R_{i,t}) \tag{5}$$

Where

$Actual\ flow_{i,t}$ = Flow of fund i during time t

$TNA_{i,t}$ = TNA of fund i at the end of time t

$R_{i,t}$ = return of fund i during time t-1 to t

In this paper, I use the actual fund flow as a percentage change from the last period in Total net asset value(TNA) so,

$$Actual\ flow_{i,t} = \frac{TNA_{i,t} - TNA_{i,t-1}(1 + R_{i,t})}{TNA_{i,t-1}} \tag{6}$$

To construct the Zheng trading strategy, I use the unexpected flow to divide the group of fund into 2 cases which is a positive unexpected flow and negative unexpected flow. The unexpected flow is the difference between actual flow and expected flow. For expected flow, it can be estimated by the lag of fund return and fund flow in the previous 12 months (Chevalier and Ellison,1997; Sirri and Tufano,1998; Coval and Stafford,2007). The normal form of unexpected flow from Fama and Macbeth (1973) is

$$Actual\ flow_{i,t} = a + \sum_{k=1}^{12} b_k(Actual\ flow_{i,t-k}) + \sum_{h=1}^{12} c_h(R_{i,t-k}) + \varepsilon_{i,t} \tag{7}$$

Where $\varepsilon_{i,t}$ = unexpected flow of fund i in period t

However, due to LTF investor and RMF investor tend to have some specific characteristic of buy and sell .For LTF, the minimum holding period is 5 year calendar so investors in LTF tend to buy at the end of the

first year and sell at the start of the fifth years. Then the investor in LTF can hold around 3-4 years of this strategy. However, for RMF investor, they need to hold the fund until they meet the retirement at 55 years old and they cannot quit from the long position until they reach the exact date and month which they invest in this fund. So, like the LTF investor, RMF investor tends to buy the fund at the end of the year for exempt tax in that year. By the way, the quit period of these fund are different because LTF can quit from the fund in the first month, but RMF can only quit at the same month that they invest. For these reasons, I develop the unexpected flow equation to capture the month effect of these funds to find the exact fund flow. So, the new unexpected flow for LTF and RMF investor is

$$Actual\ flow_{i,t} = a + \sum_{k=1}^{12} b_k (Actual\ flow_{i,t-k}) + \sum_{h=1}^{12} c_h R_{i,t-k} + \varepsilon_{i,t} + month\ dummies \qquad (8)$$

Where month dummies try to capture the month effect.

2.4 Zheng(1999) Trading strategy

Due to GT-measurement can observe only aggregate investor and it can't show the return of a mutual fund. So, Zheng provide the trading strategy to examine the selection ability. Then I develop the trading strategy which is consistent which Zheng for separate the group of investor into LTF RMF and Other. To sum up, I provide in 16 trading strategies.

Portfolio I: all funds with + unexpected flow weight by proportion of unexpected flow

Portfolio II: all funds with - unexpected flow weight by proportion of unexpected flow

Portfolio III: LTF with + unexpected flow weight by proportion of unexpected flow

Portfolio IV: LTF with - unexpected flow weight by proportion of unexpected flow

Portfolio V: RMF with + unexpected flow weight by proportion of unexpected flow

Portfolio VI: RMF with - unexpected flow weight by proportion of unexpected flow

Portfolio VII: OTHER with + unexpected flow weight by proportion of unexpected flow

Portfolio VIII: OTHER with - unexpected flow weight by proportion of unexpected flow

Where OTHER define fund, which exclude the LTF and RMF.

Each of portfolios shows the new flow in or flow out of funds. I reconstruct the portfolios at the end of each month. Then, I show the return of each portfolio by use $\alpha^{Carhart}$ and check the robustness result by using α^{Jensen} and α^{FF}. I compare the difference of alpha between positive new money portfolio and negative new money portfolio to see whether alpha from the money flow in is more than flow out or not.

2.5 Measurement fund performance

Follow by Zheng(1999) and Sapp and Tiwari(2004), I use $\alpha^{Carhart}$ To measure the return of the portfolio and recheck for the robustness result with α^{Jensen} and α^{FF}.

Cahart (1997) 4-factors model

$$R_{i,t} - RF_t = \alpha_i + \beta_{i,RMRF} \times RMRF_t + \beta_{i,SMB} \times SMB_t + \beta_{i,HML} \times HML_t + \beta_{i,UMD} \times UMD_t + e_{i.t} \quad (9)$$

$$\alpha_{i,t}^{Carhart} = \alpha_i + e_{i,t} \tag{10}$$

Fama and French 3-factors model

$$R_{i,t} - RF_t = \alpha_i + \beta_{i,RMRF} \times RMRF_t + \beta_{i,SMB} \times SMB_t + \beta_{i,HML} \times HML_t + e_{i.t} \tag{11}$$

Jensen(1986) market-adjusted model

$$R_{i,t} - RF_t = \alpha_i + \beta_{i,RMRF} \times RMRF_t + e_{i.t} \tag{12}$$

Where

$R_{i,t}$ = return of mutual fund i in time t.

RF_t = risk free rate in time t.

$RMRF_t$ = $R_{m,t} - RF_t$, the excess market return in time t.

SMB_t = rate of return in the mimicking portfolio for the size factor.

HML_t = rate of return on the mimicking portfolio for the book-to-market equity factor.

UMD_t = rate of return on the mimicking portfolio for the momentum factor.

3.Results and Discussions

3.1 GT-measurement (Grinblatt and Titman(1993))

The GT-measurement model can reflect the smart money effect of investor in the overall view. Table 2 present the means GT-measure by show in three group which are LTF, RMF and OTHER. I use the monthly data to calculating the GT-measurement. The results indicate that the smart money effect is appear in the group of investors in OTHER group which show the significant p-value by t-test at 0.0682 or 10 percent significant level. However, the result of the LTF and RMF don't significant and can't reflect anything.

Table 2. Grinblatt and Titman(1993) performance measure(GT measure)

	GT measure	t-Statistics
LTF	-0.009728	-0.8351
RMF	-0.000146	-0.014
OTHER	0.0230074	1.499*

The table present the mean value of GT-measure for each type of mutual fund. * indicate 10% significant

3.2 Unexpected flow

The results of equation 8 are show in the table 3 and all month dummies results are show the significant. That mean the buy and sell behavior of Thai investors are fully correlate with the time. Interesting

that for the investor in the individual tax exempt mutual fund (LTF and RMF) are have the abnormal buy power at the last quarter of the year especially in the last month. This can explain that the investor of LTF and RMF may be buy the fund for exempt the individual tax in this year. So, it support the model in this paper in the next section that use the unexpected flow to weight the portfolio and this may be also support that the investor in the LTF and RMF group tend to buy the fund for tax exempt propose only and they don't mind about their return with show the dumb investor in smart money effect.

Table 3. month dummies

Months			
	LTF	RMF	OTHER
February	0.0052	0.0145***	0.0066**
	(0.532)	(0.009)	(0.022)
March	0.0123	0.0130**	0.0085***
	(0.134)	(0.017)	(0.003)
April	0.0142*	0.0219***	0.0078***
	(0.085)	(0.000)	(0.007)
May	0.0235***	0.0256***	0.0116***
	(0.005)	(0.000)	(0.000)
June	0.0295***	0.0250***	0.0147***
	(0.000)	(0.000)	(0.000)
July	0.01560*	0.0227***	0.0090***
	(0.072)	(0.000)	(0.002)
August	0.0162*	0.0208***	0.0140***
	(0.055)	(0.000)	(0.000)
September	0.0194**	0.0353***	0.0154***
	(0.023)	(0.000)	(0.000)
October	0.0336***	0.0393***	0.0156***
	(0.000)	(0.000)	(0.000)
November	0.0425***	0.0444***	0.0162***
	(0.000)	(0.000)	(0.000)
December	0.1510***	0.1094***	0.0159***
	(0.000)	(0.000)	(0.000)

Con	-0.0194***	-0.0272***	-0.0159***
	(0.001)	(0.000)	(0.000)

This table present the monthly dummies variable of each type of fund from equation 8. *, ** and *** indicate 10%, 5% and 1% significant respectively.

3.3 Zheng(1999) Trading strategy

Table 4 shows the result of cahart 4 factors model byuse the portfolio from Zheng trading strategy and reconstruct each portfolio at the end of the month. For portfolio I, $\alpha_{i,t}^{Carhart}$ is 0.0089, while portfolio II over performs by 0.0096. However, the difference between $\alpha_{i,t}^{Carhart}$ of portfolio I and II is not significant and that mean the smart money effect don't appear in the overall investors in Thailand. By the way, when separate the group of investor into LTF, RMF and OTHER group, the smart money effect is appear in the OTHER group and the difference of $\alpha_{i,t}^{Carhart}$ is 0.00539 and significant at 10 percent level. In line with hypothesis, The RMF group show the reverse of the smart money effect which call dumb money effect and it significant at 10 percent level. Unfortunately that for LTF group, the difference of $\alpha_{i,t}^{Carhart}$ isn't significant. By the way, the result of LTF group is in line with the Dumb money effect and the difference of $\alpha_{i,t}^{Carhart}$ is -0.0028.

Table 4. Regression analysis of zheng trading strategies

Panel A: Carhart(1997) four factor model

	All investors			LTF investors	
	Positive	Negative		Positive	Negative
	Portfolio I	Portfolio II		Portfolio III	Portfolio IV
Alpha	0.0089	0.0097		0.0073	0.0102
RMRF	0.6762	0.6838		0.6988	0.6267
SMB	-0.2553	-0.2474		-0.2162	-0.2985
HML	-0.1480	-0.1186		-0.1423	-0.1415
UMD	-0.0095	-0.0030		-0.0230	0.0004
Alpha difference	-0.0007	(-0.427)		-0.0029	(-1.031)

Panel A: Carhart(1997) four factor model

	RMF investors			OTHER investors	
	Positive	Negative		Positive	Negative
	Portfolio V	Portfolio VI		Portfolio VII	Portfolio

				VIII
Alpha	0.0071	0.0126	0.0121	0.0067
RMRF	0.6865	0.6296	0.6465	0.7862
SMB	-0.2649	-0.2581	-0.2784	-0.1882
HML	-0.1762	-0.0492	-0.1299	-0.1557
UMD	-0.0106	-0.0040	0.0044	-0.0048
Alpha difference	-0.0054*	(-1.7817)	0.0054**	(1.903)

Panel B: Fama and French(1993) three factor model

	All investors		LTF investors	
	Positive flow	Negative flow	Positive	Negative
	Portfolio I	Portfolio II	Portfolio III	Portfolio IV
Alpha	0.0089	0.0097	0.0074	0.0102
RMRF	0.6762	0.6838	0.6931	0.6268
SMB	-0.2553	-0.2474	-0.2246	-0.2983
HML	-0.1480	-0.1186	-0.1402	-0.1415
Alpha difference	-0.0007	(-0.427)	-0.0028	(-1.004)

Panel B: Fama and French(1993) three factor model

	RMF investors		OTHER investors	
	Positive	Negative	Positive	Negative
	Portfolio V	Portfolio VI	Portfolio VII	Portfolio VIII
Alpha	0.0071	0.0126	0.0121	0.0067
RMRF	0.6865	0.6296	0.6465	0.7862
SMB	-0.2649	-0.2581	-0.2784	-0.1882
HML	-0.1762	-0.0492	-0.1299	-0.1557

Alpha difference	-0.0054*	(-1.7817)	0.0054**	(1.903)

Panel C: Jensen(1968) model

	All investors		LTF investors	
	Positive	Negative	Positive	Negative
	Portfolio I	Portfolio II	Portfolio III	Portfolio IV
Alpha	0.0088	0.0092	0.0073	0.0102
RMRF	0.7288	0.7373	0.6988	0.6267
Alpha difference	-0.0005	(-0.262)	-0.0021	(-0.687)

Panel C: Jensen(1968) model

	RMF investors		OTHER investors	
	Positive	Negative	Positive	Negative
	Portfolio V	Portfolio VI	Portfolio VII	Portfolio VIII
Alpha	0.0070	0.0118	0.0117	0.0067
RMRF	0.7369	0.6948	0.7095	0.8190
Alpha difference	-0.0048	(-1.472)	0.0050*	(1.652)

The table Panels A,B and C presents the results of fund analysis of zheng trading strategies and the difference of alpha. * and ** indicate 10% and 5% significant, respectively.

4.Conclusion

The aim of this paper is to consider the selection ability and timing ability of Thai mutual fund investors which call "Smart money effect". The results indicate that the smart money effect is not appear when consider overall investors in Thailand. By the way, the smart money effect is appear in the investors who invest in the fund which don't have the individual tax benefit and the dumb money effect is show in the group of investor who invest in the individual tax exempt fund (LTF and RMF).

The flow model of this paper show that investor of LTF and RMF have the abnormal buying power in the last month of the year. This can support that LTF and RMF investor tend to buy the fund for tax propose

only and they don't remind about their return. This result are in line with the smart money effect test which are GT-measurement and Zheng trading strategies. For GT-measurement model is construct to see the smart money effect of investor which define by Grinblatt and Titman(1993) and the result of this model indicate that OTHER investors show the smart money effect but the LTF and RMF investor can't conclude in this model. By the way, the Zheng trading strategies is answer all the questions. It shows that OTHER investors show the smart money effect which in line with the GT-measurement model and the individual tax exempt investors shows the dumb money effect. Even though the LTF group is not clear but the result is in line with the dumb money effect.

This paper casts doubts on the argument that laws should be established to protect all kind of investors and the individual tax exempt investors should put their intention on the return of their portfolio to protect themselves for losing money. Finally, it will be interesting for the future research to re study the smart money effect in Thailand by using the different tool and strategies to measure them.

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Free Float Effect on Stock Performance with Divergence of Opinion Hypothesis

Chuenbunluesook Yudhavee

Abstract

This research investigates the effect of free float on stock performance under an assumption that investors have divergence of opinion. The objective of this study is to provide an empirical evidence of free float effect in a different viewpoint and to answer whether effect of free float on stock performance should be considered together with the effect of opinion divergence. The empirical results reveal that investors' degree of opinion divergence affects the sensitivity of stock price to free float. This evidence is consistent with the prediction of this research. However, the results show that free float is negatively related to stock future return, which appears to be against the research's prediction. This negative relation is in line with the theory which proposes that free float is a proxy of stock liquidity risk. The author finds the supportive evidence to this argument and it reveals that the results of relationship between free float and stock future return might be dominated by the liquidity effect. As a result, we can reconcile the conflicting results and conclude that the predicted effect of free float holds true.

1. Introduction

Investors and academic researchers have recently started to concern the effect of free float since the collapse of internet bubble in the late 1990s. A growing literatures in finance suggest that free float is the main catalyst of the event due to the significant increase of floating shares of many firms during that time. If we consider free float as the stock supply, it is economically reasonable to hypothesize that the increase of free float will cause the equilibrium prices of stocks lower, the opposite is true for the case of decreasing free float. This implies that a dramatic change of free float is likely to cause a dramatic change of stock prices. However, if investors have divergence of opinion as argued by Miller (1977), the demand curve of stock will be downward sloping. The more opinions diverge, the steeper the demand curve of stock and the higher equilibrium price. Hence, this logic suggests that the equilibrium prices of stocks are affected by both free float and investors' degree of opinion divergence. This research attempts to investigate the effect of free float to the stock performance in such a framework.

During the collapse of internet bubble in the late 1990s, several researchers found that free float of internet companies increased substantially and was credited to be the cause of crisis. The concerns about free float have encouraged a number of large stock index companies to revise their indexes to be adjusted by free float because it can reflect the extent of tradable shares more accurately. Liam, Lin and Michayluk (2011) have provided evidences to support the notion that free-float adjusted methodology can help reducing price distortions which is created by unbalanced demand and supply for low free float stocks. Many investment banks have also come to realize the importance of free float in recent years. For instance, Morgan Stanley Capital International's indexes used to ignore the concept of free float, leading them to suffer negative effect during East Asia financial crisis. Hence, they have changed the methodology of calculating the weights of its indexes. FTSE indexes is another one which encountered the same experience and revised their methodology (Aggarwal, Klapper and Wysocki, 2005). Weights of the stocks constituted in the indexes have been adjusted by free float since the start of 2001 to reflect government holdings and restricted ownership to ensure a more accurate representation of freely tradable stocks in the market. Free float-adjusted methodology is also used with Tokyo

Stock Price Index. Tokyo Stock Exchange (TSE) announced an initiative to implement free-float adjustment of the TOPIX in February 2004 (Ide 2004).

Stock prices of companies with low free float tend to be easily manipulated. Major shareholders can quickly change the stock price to conduct the market value of that particular firm to their target. On the other hand, companies, especially large companies, with higher free float percentage are less likely to be exposed to such situation. Bostanci and Kilic (2010) explain that a low amount of floating shares implies thin market. Hence, there are two types of possible effect of free float. First, low free float ratio will discourage investors to invest in that particular stock. The intuition is that low free float companies have weak corporate governance structure and investors are not willing to risk with the possibility of expropriation. Second, lower free float indicates lower liquidity which can harm the value of stocks because investors dislike illiquidity, this is also argued by Weill (2008). However, divergence of opinion hypothesis proposed by Miller (1977) can be used as an alternative explanation for effect of free float to stock performance if we consider free float as a stock supply while assuming that rational investors have a different assessment of value estimates.

In economics sense, determining the equilibrium price of an asset needs two components, which are supply and demand. Free float can be simply used as a proxy for stock supply. However, to determine the proxy for investors' demand appears to pose a challenges. There are many researchers attempt to determine the characteristic of stock demand curve, one of those is Miller (1977) who proposed the mispricing theory in a demand-supply viewpoint under short-sale constraints which includes divergence of opinions hypothesis into the picture. He argues that when investors have divergence of opinions and bind by short-sale constraints, pessimistic investors will not sell the stocks causing stock prices to be upwardly biased. In other words, stock prices are more likely to reflect the valuation of the optimistic participants when there are trading frictions that prevent pessimists to trade against them. The key point of his model is that the slope of demand curve depends on the degree of opinion divergence amongst investors. Demand curve will be steeper when the degree of opinion divergence is greater. The opposite is true for the case of lower degree of opinion divergence. Many researches have been motivated by Miller's theory, and Miller conjecture, perhaps not surprisingly, leads to the critiques on Capital Asset Pricing Model (CAPM) for unrealistic assumption which plays on paradigm of homogeneous expectations. Hence, divergence of opinion has been incorporated in many models such as Capital Asset Pricing Model to relax the homogeneous expectations assumption. Researchers found that opinion divergence can change the equilibrium of the stock prices and several researches have interestingly shown that opinion divergence has a predictive power for future stock returns which are considered as anomalies from the CAPM viewpoint (Fama and French 1996). For example, Goetzmann and Massa (2001) showed that heterogeneous beliefs can affect aggregate market returns. Diether, Malloy and Scherbina (2002) revealed that opinion divergence causes stock prices to be upwardly biased which is strongly supportive to Miller's predictions. To conclude, Miller's logic implies that the greater the opinion divergence, the higher the equilibrium prices of the stocks relative to its true value and hence the lower expected returns.

Miller's predictions offer an intuitively appealing idea and have received a great deal of attention, yet the evidence for Miller's theory seems to be meager and inconclusive. More importantly, most of the researches tested the theory by mainly studying on the opinion divergence which reflected in the slope of the demand curve of stocks, but there were a few researches that attempt to test the theory by investigating the impact of free float, which is reflected in stock supply, to the subsequent stock performance. This is the main motivation of this research to fill this gap.

The intuition that free float can affect asset prices relies on a few simple assumption. Greenwood (2006) explained that when risk averse investors estimate the asset values differently and bind by short-sale constraints, assets will be allocated to the most bullish investors and prices will be consequently set by them. Under such context, the most bearish investors (i.e. pessimists) will not be willing to participate in the market because the asset prices are overvalued regarding to their estimates. If free float is decreased, more of the pessimistic investors will be forced out and the assets will be priced by only the most bullish investors. In extreme case, if free float is reduced to zero and investors are unable to go short due to short-sale constraints, the particular asset will be priced by estimation of the most optimistic investors in the market alone. Theoretically, the greater the opinion divergence about the value estimates of assets, the larger the free float effects on the asset prices. To conclude, when investors have heterogeneous expectations in the market (i.e. downward sloping demand curve), the amount of floating shares tend to have a negative relation with the stock prices which implies that lower free float tends to increase the equilibrium prices of stock relative to its true value and hence lower future returns.

According to Miller (1977), the broader the array of value estimates made by all investors in the market, the steeper the demand curve will be. If we assume that the stock supply is constant, the movement in price will be caused by shifts of the demand curve only. This implies that the stocks with the highest steep of demand curve will exhibit a greatest fluctuation in price. As discussed in the next section, several authors mainly studied on opinion divergence effect and found their results consistent to Miller (1977)'s prediction. However, it is critically important to note that the essence of this research does not center around the opinion divergence effect in stock performance but rather on the free float which is the part of the stock supply. In other words, the author examines the free float effect in the Miller's framework and assumes that a demand component is fixed by an attempt to control investors' degree of opinion divergence in proposed regression model.

A major challenge in controlling opinion divergence is determining proxies that can effectively capture the degree of investors' opinion divergence. Academic researchers have used a variety of opinion divergence proxies to test Miller's prediction. For instance, Diether, Malloy and Scherbina (2002) used dispersion of analysts' earnings forecast, Chen, Hong, and Stein (2001) used breadth of ownership, and Baker, Coval, and Stein (2004) used idiosyncratic volatility. In addition, Berkman et al. (2008) note that multiple proxies of opinion divergence should be employed. Hence, it is essential that the author adopts multiple proxies of divergence of opinion to obtain robust results. In this study, the author decided to employ two proxies namely dispersion in analysts' earnings forecast and idiosyncratic volatility.

This study attempts to examine free float effect on future returns of the stocks in U.S. market to provide the empirical evidences in different perspective from other researches related to free float or divergence of opinion hypothesis. The author also examines the effect of free float changes on stock prices when each stock has different level of opinion divergence, which is another gap in this research and offer a more complete picture of how free float affects stock price. Moreover, Miller (1977) explains that short selling allows investor to effectively introduce the additional stocks into the market, which implies more supply of the stocks. That is, short sales move the supply curve to the right and lower the price of an asset. Thus, to effectively investigate the free float effect, the author had to add a value of outstanding short position for each stock in proposed regression model to separate its effect from free float effect on stock performance. The author believes that this research is the first to include value of outstanding short position to investigate free float effect under the assumption that investors have a divergence of opinion.

The effect of free float on liquidity is the most popular subject for the researchers. Nevertheless, few researches have been investigated directly on the effect of free float to the stock price and returns, especially in the framework of divergence of opinion hypothesis. As discussed above, this valuation effect of divergence of opinion can also be related to free float which reflected in the stock supply. With free float as a direct proxy of a stock supply and divergence of opinion as a proxy for slope of a demand curve, the author can investigate the effect of free float in the different viewpoint from other researches. To be specific, this research combines free float effect with the divergence of opinion hypothesis proposed by Miller (1977) to investigate the effect of free float in a new perspective. To the best of author's knowledge, this is the first of the study that directly investigate the effect of free float on stock performance with such a framework.

2. Methodology

2.1. Free float ratio

Since Thomson Reuters is capable of providing first class strategic holding information through the free float datatypes available in Datastream Products, the free float data in this research are then retrieved from Thomson Reuters Datastream.

Free float is calculated by determining the types of ownership and no holdings will be identified as strategic investors if they are less than five percent of a company's share capital. According to Thomson Reuters Datastream, the data is derived from several sources such as SEC filings, annual and interim reports, stock exchanges, official regulatory bodies, third party vendors, company websites, and direct contact with company investor relation departments. Moreover, Datastream updates value of free float on the 10th and 30th of each month. This means the data of monthly free float reported in Datastream clearly reflect the most recent free float

level of each firms. Hence, there is unlikely to have an issue of measurement error problem in the obtained empirical evidences.

Free float data using in this research is defined as the total amount of shares available to ordinary investors, expressed as a percentage of total number of shares outstanding. Note that the total number of shares are subtracted by the strategic holdings

2.2. Short sale ratio

The mispricing theory proposed by Miller (1977) explained that when investors can short sell, investors effectively create a stock in a company. Short sale investors agree to pay dividends to the owner of that particular stocks, and have to redeem the borrowed share when stock owners demand. Practically, from the stock owner's viewpoint, the stocks are created in the similar means of the stock issuing from listed companies and still satisfies his or her need to hold the company's stocks. As a result, stock supply in the market increases by the amount of short interest (i.e. amount of the outstanding short position) and also subsequently moves the vertical supply curve to the right and ultimately lower the equilibrium price. Also, the joint effect of opinion divergence and short-sale constraints on asset prices was emphasized by Scheinkman and Xiong (2003). Hence, to effectively investigate the free float effect on stock performance, the author has to add the amount of outstanding short position into the proposed regression model. The data of outstanding short position are retrieved from Bloomberg database.

The short sale value in this research is defined as total value of outstanding short position expressed as a percentage of total number of floating shares.

2.3. Divergence of opinion measure based on dispersion in analysts' earnings forecast

Dispersion in analysts' earnings forecasts used as a proxy for opinion divergence is suggested by Diether, Malloy and Scherbina (2002). They argued that dispersion in analyst forecast reflects the extent of disagreement among analysts and investors. Prices will reflect optimistic views when investors with the lowest valuations do not trade. The friction that prevents the revelation of negative opinions may include the incentive structure of the analysts that impede them to issue very negative forecasts even when they are sufficiently pessimistic. Forecast consensus tends to be upwardly biased when there is a large divergence of opinion because the analysts are reluctant to share their negative opinions, which results in overvaluation of stocks.

Dispersion in analysts' earnings forecasts is defined as the ratio of monthly standard deviation of analyst earnings per share forecasts to the absolute value of the mean of the analysts' forecast. Standard deviation in monthly analyst earnings forecasts and the mean monthly analyst forecasts are retrieved from the Thomson Reuters Datastream, and earnings forecasts with a mean of zero are excluded from the estimation sample of DISP. Furthermore, Diether, Malloy and Scherbina (2002) also suggested that a stock must have a minimum of two analyst forecasts in a month to be included in the sample. Specifically, the formula for dispersion of analysts' earnings forecasts is as follows:

$$DISP = \frac{Std(forecast)}{|Mean(forecast)|}$$

The stocks that have higher earnings could potentially have higher levels of standard deviation of earnings forecasts. Hence, to make the number comparable across stocks, the monthly standard deviation of analysts' earnings forecasts are then scaled by the mean of analysts' earnings forecasts.

2.4. Divergence of opinion measure based on idiosyncratic volatility

A number of researches have been used idiosyncratic volatility as a proxy for several economics effect as well as divergence of opinion. Baker, Coval and Stein (2004) explained that if investors are risk averse and have heterogeneous expectations (i.e. opinion divergence), an increase in idiosyncratic volatility will cause the demand curve to be steeper. The intuition is that idiosyncratic volatility reduces the size of trading positions, as a result of the willingness of investors to take a position with any given valuation are diminished. Additionally, Wurgler and Zhuravskaya (2002) also obtained empirical results that are fairly supportive to the validation of

using idiosyncratic volatility as a proxy for slope of demand curve (i.e. opinion divergence). They showed that when firm's stocks with higher idiosyncratic volatility were included to S&P 500 index, the impact on stock prices was stronger than stocks with lower idiosyncratic volatility.

Similar supportive empirical evidences were from Eastley et al. (1998) and Ang et al. (2003), they interestingly showed that stocks with higher idiosyncratic volatility are more likely to offer a lower future return than stocks with lower idiosyncratic volatility. Thus, their empirical results seemed to support the validation of idiosyncratic volatility and the divergence of opinion hypothesis proposed by Miller (1977). Similarly, Guo and Savickas (2008) also found that the idiosyncratic volatility has a negative relationship with the future stock returns. They indicated that the possible explanation for this empirical result is that the idiosyncratic volatility is a measure of divergence of opinion, which, as argued by Miller (1977), could lead a stock to be overvalued and the investors will subsequently suffer capital losses if they are bind by short-sale constraints.

In this research, idiosyncratic volatility is defined as the standard deviation of the residuals on the contemporary three factors (*MKT*, *SMB*, and *HML*) of Fama-French (1993) estimated from the time-series regression of the daily returns on stock i in month t. The author excludes the sample that have less than 18 daily return observations as suggested by Hwang and Qian (2011). Specifically, the author determines idiosyncratic volatility with respect to the Fama-French model using the following regression:

$$r_i = \alpha_i + \beta_i MKT + s_i SMB + h_i HML + e_i$$

Where r_i is the daily excess return of stock i. The idiosyncratic volatility of stock i is determined by measuring the standard deviation of the residuals e_i as follows.

$$IDV = \sqrt{\frac{1}{T}\sum_{t=1}^{T} e_{it}^2}$$

2.5. Summary statistics

The sample includes all ordinary common stocks listed on the S&P 500 index in 2000 to 2014. All data are retrieved from Thomson Reuters Datastream. This research employs all data based on monthly basis as suggested by Dimson (1979). The reason is that the model specification requires monthly data because when using data with smaller time-frame, there will be a concern on the factors that should be included in the regression model. Dimson (1979) stated that the more frequent data, the more frequency of trading. Investors may not possibly capture only relevant information on that time during high frequency data. As a result, the model regressions have to necessarily include the lag or lead terms of the variables in the model. Hence, using all data based on monthly basis can avoid this issue. Table 1 describes the summary statistics of dependent variables used in this research.

Table 1. Summary statistics of dependent variables.

Variables	Observations	Mean	Std.Dev.	Min	Max
FFR (%)	70714	77.5425	20.9531	0	100
SSR (%)	89460	3.4904	4.316	0	62.3291
DISP (%)	80959	7.51	4.919	0	45
IDV (%)	89460	1.36419	1.109751	0	36.0434
MKT (%)	89460	0.3331	4.5555	-17.23	11.35
SMB (%)	89460	0.3564	3.5068	-16.41	22.02
HML (%)	89460	0.4538	3.3094	-12.61	13.89
Number of firms	497				

2.6. Testing Strategy

The author examines free float effect on stock performance using values of investors' opinion divergence, as proxied by dispersion in analysts' earnings forecast and idiosyncratic volatility, that are measured in month t and linked with stock performance data (i.e. stock future returns) in the following k (k is equal to 1, 2, 3, 6 and 12) month(s). Specifically, cross-sectional data of next k *month's* stock performance is regressed on

free float ratio and degree of opinion divergence in month t. As argued by Fama and French (1996), many of the CAPM average-return anomalies are related, and they are captured by the three-factor model in Fama-French namely market beta, size and book-to-market. Size is proxied by market capitalization and book-to-market is defined as net tangible assets divided by market capitalization.

The k-period performances of stocks in the author's research are controlled by Fama-French (1993) three-factor model to ascertain the robustness of the results. To be precise, three factors (i.e. *MKT*, *SMB*, and *HML*) in the same period of stock performance also used to ascertain the robustness of any relationship between free float ratio and next k month's stock performance. The intuition for using different periods of k for measuring future stock performance is that the speed of price adjustment may vary. Hence, using different period of k can offer a more precise picture of how free float affects the future stock performance. Moreover, short sale ratio at the end of month t is also included into one of the control variable because, as explained by Miller (1977), it is one of the stock supply components. This can be shown in Figure 1.

Since in Miller's model stock prices will reflect an optimistic valuation if investors are bind by short-sale constraints. Optimists will hold the stocks because they have the highest estimates. However, they suffer losses in expectation because the best value estimate is the average opinion. This implies that the greater the divergence of opinion, the higher the stock prices relative to the true value and the lower its future returns. This is illustrated in Figure 2.

Based on Figure 2. If stock A and stock B are identical but stock A has a greater degree of opinion divergence than stock B (i.e. demand curve of stock A is steeper than demand curve of stock B), stock A will have a higher price relative to the true value and have lower future return than stock B.

As previously discussed, many studies found strongly supportive evidences to Miller's conjecture. For example, Diether, Malloy and Scherbina (2002) found a negative relationship between level of investors' divergence of opinion and stock future returns. They found that the stocks with higher dispersion in analysts' earnings forecast tend to offer a lower future returns than otherwise similar stocks. Ackert and Athanasakkos (1997) also documented that high degree of divergence of opinion could forecast low future stock returns.

This logic leads to the first research question. This research will examine free float effect on stock future return based on the Miller's conjecture. Greenwood (2006) explained that a decrease in supply of stock on the market moves the vertical supply curve to the left, make the prices higher and cause the stocks to be more overvalued, which potentially implied lower future return. This is illustrated is Figure 3, when free float level moves from FF_1 to FF_2 which decreases by x, the price will increase by y and this potentially leads to lower future return for this stock. To be precise, this logic implies that lower free float stocks tend to have lower future return. The opposite is true for higher free float stocks.
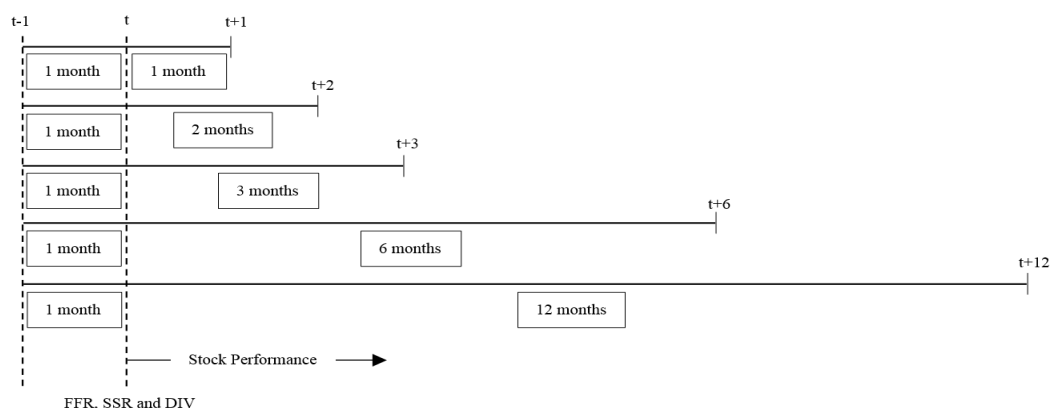
Fig. 1. Testing strategy.
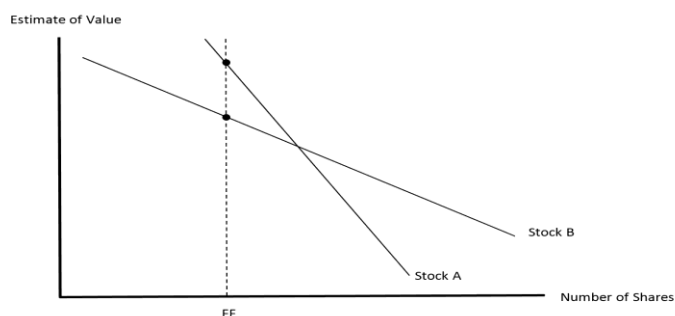
Fig. 2. Effect of investors' degree of opinion divergence on equilibrium price of stocks.
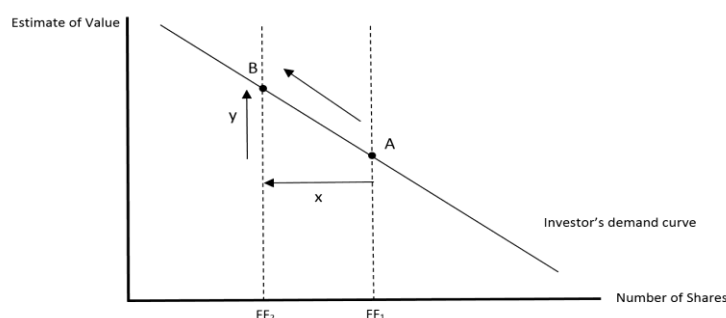
Fig. 3. Effect of change of free float on equilibrium price of stocks.

Hence, the author hypothesizes that free float ratio will have a positive relationship with stock future returns when controlling degree of opinion divergence. The author uses the following designated regression model to test this hypothesis. If Miller's conjecture is valid, β_1 will be statistically significant in positive direction:

$$FR_{i,t+k} = \beta_0 + \beta_1(FFR_{i,t}) + \beta_2(DIV_{i,t}) + \beta_3(FFR_{i,t}.DIV_{i,t}) + \beta_4SSR_{i,t} + \beta_5(SSR_{i,t}.DIV_{i,t}) + b_1MKT_{t+k} + s_1SMB_{t+k} + h_1HML_{t+k} + \varepsilon_1.$$

Where FR is future return of stock i in each $t+k$ period(s), FFR is free float ratio, DIV is a degree of opinion divergence based on two proxies (i.e. $DISP$ and IDV) in month t, SSR is short sale ratio month t, MKT is return of market portfolio minus risk-free rate, SMB is excess return of small stocks over big stocks, and HML is excess return of value stocks over growth stocks. The Fama-French three factors are used in the same $t+k$ periods with FR. The author adds an interaction term of FFR and DIV into the regression model because, as Greenwood (2006) stated, the effect of free float will vary with different degree of opinion divergence. To be precise, the greater the opinion divergence, the stronger the free float effects on the stock prices. Moreover, since short sale ratio (SSR) is also one of the stock supply components, the interaction term of SSR and DIV is also necessary.

The formula of future return is as follows:

$$Future\ return\ (FR) = log(P_{t+k} / P_t).$$

Where P_{t+k} is the stock price of the future k period, P_t is the stock price of the current periodBased on Miller's framework, free float effect should be larger for stocks that higher degree of opinion divergence and vice versa. This is illustrated in Figure 4, when stock A have greater degree of opinion divergence than stock B (i.e. demand curve of stock A is steeper than demand curve of stock B), the equal increment of free float (FF_2 − FF_1) will cause stock A to drop more than stock B (i.e. length of a is greater than the length of b). The opposite

is true for the case of decreasing free float. In other words, the greater the opinion divergence, the greater the sensitivity of stock prices to free float.

To test this conjecture, the author uses the following designated regression model:

$$CR_{i,t} = \mu_0 + \mu_1(FFR_{i,t} - FFR_{i,t-1}) + \mu_2(DIV_{i,t-1}) + \mu_3[(FFR_{i,t} - FFR_{i,t-1}).DIV_{i,t-1}] + \mu_4(SSR_{i,t} - SSR_{i,t-1}) + \mu_5[(SSR_{i,t} - SSR_{i,t-1}).DIV_{i,t-1}] + \beta_3 MKT_t + s_3 SMB_t + h_3 HML_t + \varepsilon_3.$$
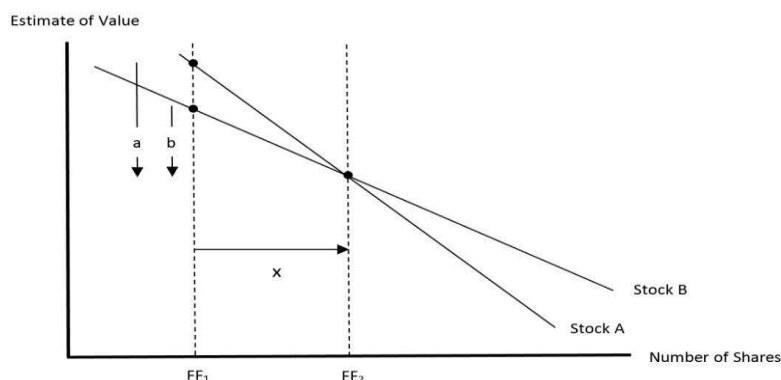
Fig. 4. Effect of free float on equilibrium price of stocks when there are different degrees of opinion divergence.

Where *CR* is current return of stock *i*. $FFR_{i,t} - FFR_{i,t-1}$ and $SSR_{i,t} - SSR_{i,t-1}$ are the difference of ratio on each particular period. Other variables are still used as same reason as regression model discussed above. Note that current return (*CR*) is basically the price difference. The reason the author uses current return instead is that it will make the number comparable across stocks. The formula of current return is as follows:

$$Current\ return\ (CR) = log(P_t / P_{t-1}).$$

If the Miller's argument holds and hence free float effect is stronger when opinion divergence is greater, the coefficient of interaction term of $FF_t - FF_{t-1}$ and *DIV* should positively contribute in explaining price differences.

3. Results and Discussions

3.1 Effect of free float on stock future returns

This section displays the results in respect of free float effect on stock future return. Table 2 and 3 displays the results based on dispersion in analysts' earnings forecasts and idiosyncratic volatility respectively. Future returns of stocks are measured in each *k* period period after the date that given independent variables are measured and are reported in the 1st, 2nd, 3rd, 4th, and 5th column respectively.

Table 2 reveals a negative coefficient estimates and are statistically significance at the 1% level, which implies that there are of a relationship between future return in all periods and *FFR*. However, these evidences are inconsistent with the research's prediction and also the Miller's conjecture. Turning to table 3, two out of five coefficient estimates are statistically significant in a negative direction at the 1% level. Again, the evidences are also inconsistent with the prediction of this research. These results can be interpreted as evidence that stocks with higher free float are more prone to yield lower returns despite the fact that they have a higher stock supply in the market. As a result, the regression results seem to suggest that the Miller's theory may not hold true.

In the broad view, the empirical results on this section shows that even when the degree of opinion divergence is controlled, the evidences still show the negative relationship between free float and stock future returns. However, this pattern of relationship appears to be consistent to the proposition from Weill (2008) who

suggests that liquidity premium of an asset is inversely proportional to its free float. This implies that the higher free float, the lower liquidity premium of an asset and hence lower future return.

From Weill (2008)'s argument, we can conclude that stocks with higher free float imply stocks with lower liquidity risk. If this type of risk is priced in the market, then this group of stocks will yield lower expected returns. This may explain that why free float is negatively related to future return as shown in the empirical evidences. We will discuss this particular issue in more detail in section 3.3.

3.2 Sensitivity of stock price to free float

This section presents the results regarding the effect of free float on stock prices, which focuses how the change of free float affects the stock price when there are different levels of divergence of opinion among investors. Panel A of table 4 reports the results based on dispersion in analysts' earnings forecasts as a proxy for investors' degree of opinion divergence. While Panel B reports the results based on idiosyncratic volatility as a proxy for investors' degree of opinion divergence. Current returns are used as a price difference to regress on the independent variables.

Table 2. This table presents the regression results regarding the effect of free float on future stock returns in U.S. market when using analysts' earnings forecasts as a proxy for investors' degree of opinion divergence. The sample period is 2000 to 2014. *FFR* is free float ratio determined by the total amount of shares available to ordinary investors, expressed as a percentage of total number of shares outstanding. *DISP* is dispersion in analysts' earnings forecasts defined as the ratio of monthly standard deviation of analyst earnings per share forecasts to the absolute value of the mean of the analysts' forecast. *SSR* is short-sale ratio defined as total value of outstanding short position expressed as a percentage of total number of floating shares. *MKT*, *SMB* and *HML* are controlled variables which calculated by method used in Fama-French (1993) three factor model. Note that three factors are determined in the same period of each future return. Hence, there will be different controlled variables for different dependent variables. Standard errors are reported in parentheses. Significance at the 1%, 5% and 10% level are denoted by ***, **, and *, respectively.

Variables	Observations	Mean	Std.Dev.	Min	Max
FFR (%)	70714	77.5425	20.9531	0	100
SSR (%)	89460	3.4904	4.316	0	62.3291
DISP (%)	80959	7.51	4.919	0	45
IDV (%)	89460	1.36419	1.109751	0	36.0434
MKT (%)	89460	0.3331	4.5555	-17.23	11.35
SMB (%)	89460	0.3564	3.5068	-16.41	22.02
HML (%)	89460	0.4538	3.3094	-12.61	13.89
Number of firms	497				

Table 3. This table presents the regression results regarding the effect of free float on future stock returns in U.S. market when using idiosyncratic volatility as a proxy for investors' degree of opinion divergence. The sample period is 2000 to 2014. *FFR* is free float ratio determined by the total amount of shares available to ordinary investors, expressed as a percentage of total number of shares outstanding. *IDV* is idiosyncratic volatility determined by calculated the standard deviation of residuals on the contemporary three factors (*MKT*, *SMB*, and *HML*) of Fama-French (1993) estimated from the time-series regression of the daily returns on stock *i* in month *t*. *SSR* is short-sale ratio defined as total value of outstanding short position expressed as a percentage of total number of floating shares. *MKT*, *SMB* and *HML* are controlled variables which calculated by method used in Fama-French (1993) three factor model. Note that three factors are determined in the same period of each future return. Hence, there will be different controlled variables for different dependent variables. Standard errors are reported in parentheses. Significance at the 1%, 5% and 10% level are denoted by ***, **, and *, respectively.

Variables	(1) One-month period return	(2) Two-month period return	(3) Three-month period return	(4) Six-month period return	(5) Twelve-month period return
FFR	-0.00212	-0.00488	-0.00256	-0.0184***	-0.0688***
	(0.00257)	(0.00364)	(0.00445)	(0.00632)	(0.00902)
DISP	0.3364***	0.6985***	1.507***	3.466***	6.675***
	(12.09)	(17.15)	(20.86)	(29.32)	(40.86)
FFR.DISP	-0.00239	-0.00581***	-0.01334***	-0.02462***	-0.04360***
	(0.148)	(0.209)	(0.255)	(0.358)	(0.498)
SSR	0.0439***	0.0650***	0.0866***	0.102***	0.357***
	(0.0118)	(0.0168)	(0.0205)	(0.0290)	(0.0408)
SSR.DISP	-0.00404	0.00291	0.00805	0.03163***	0.02239
	(0.486)	(0.690)	(0.839)	(1.182)	(1.647)
One-month *MKT*	1.087***				
	(0.00795)				
One-month *SMB*	0.164***				
	(0.0143)				
One-month *HML*	0.158***				
	(0.0138)				
Two-month *MKT*		1.135***			
		(0.00764)			
Two-month *SMB*		0.106***			
		(0.0157)			
Two-month *HML*		0.136***			
		(0.0124)			
Three-month *MKT*			1.155***		
			(0.00752)		
Three-month *SMB*			0.0435***		
			(0.0151)		
Three-month *HML*			0.112***		
			(0.0124)		

Six-month MKT				1.182***	
				(0.00723)	
Six-month SMB				-0.142***	
				(0.0150)	
Six-month HML				0.170***	
				(0.0131)	
Twelve-month MKT					1.126***
					(0.00683)
Twelve-month SMB					-0.336***
					(0.0150)
Twelve-month HML					0.181***
					(0.0141)
Constant	-0.193	-0.328	-1.011***	-1.746***	-0.701
	(0.217)	(0.308)	(0.376)	(0.534)	(0.759)
Observations	70,219	69,724	69,229	67,744	64,780
R-squared	0.270	0.309	0.323	0.368	0.373

Table 4. This table presents the regression results regarding the effect of free float on current returns of stocks in U.S. market when using multiple proxies for investors' degree of opinion divergence (i.e. analysts' earnings forecasts and idiosyncratic volatility). The sample period is 2000 to 2014. $FFR_t - FFR_{t-1}$ is a difference of free float ratio in each particular period, where free float ratio is determined by the total amount of shares available to ordinary investors, expressed as a percentage of total number of shares outstanding. IDV is idiosyncratic volatility determined by calculated the standard deviation of residuals on the contemporary three factors (MKT, SMB, and HML) of Fama-French (1993) estimated from the time-series regression of the daily returns on stock i in month t. $SSR_{i,t} - SSR_{i,t-1}$ is a difference of short-sale ratio in each particular period, where short-sale ratio is defined as total value of outstanding short position expressed as a percentage of total number of floating shares. MKT, SMB and HML are controlled variables which calculated by method used in Fama-French (1993) three factor model. Note that three factors are determined in the same period of future return. Hence, there will be different controlled variables for different dependent variables. Standard errors are reported in parentheses. Significance at the 1%, 5% and 10% level are denoted by ***, **, and *, respectively.

Panel A		Panel B	
Variables	Current returns	Variables	Current returns
$FFR_t - FFR_{t-1}$	0.00191	$FFR_t - FFR_{t-1}$	0.0321
	(0.00615)		(0.0310)
DISP	-0.122	IDV	-0.6266***
	(0.105)		(6.033)

$(FFR_t - FFR_{t-1}).DISP$	-0.0543**	$(FFR_t - FFR_{t-1}).IDV$	-0.0215***
	(0.0239)		(0.00667)
$SSR_{i,t} - SSR_{i,t-1}$	0.136***	$SSR_{i,t} - SSR_{i,t-1}$	0.256***
	(0.0519)		(0.0776)
$(SSR_{i,t} - SSR_{i,t-1}).DISP$	0.371***	$(SSR_{i,t} - SSR_{i,t-1}).IDV$	-0.05681*
	(0.0808)		(2.954)
MKT	1.099***	MKT	1.071***
	(0.0144)		(0.0144)
SMB	0.177***	SMB	0.184***
	(0.0271)		(0.0269)
HML	0.158***	HML	0.148***
	(0.0278)		(0.0276)
Constant	0.0539	Constant	0.952***
	(0.0607)		(0.104)
Observations	19,879	Observations	20,341
R-squared	0.267	R-squared	0.266

Panel A reveals that the coefficient estimate of the interaction term of $FFR_t - FFR_{t-1}$ and $DISP$ is -0.0543 and statistically significant at the 5% level. While panel B also display the negative coefficient estimates which is -0.0215 and statistically significant at the 1% level.

These results suggest that the increase of free float makes the stock price lower, which makes sense in term of economics theory. Furthermore, the results also suggest that the increase of degree of opinion divergence is likely to make the negative effect of free float on stock price stronger. This evidence is consistent with the research's prediction and also in line with Greenwood (2006)'s argument which states that firms have a strong incentive for float manipulation when there is a great degree of opinion divergence in the market. However, the interesting fact is that the coefficient estimates of $FFR_t - FFR_{t-1}$ as shown in both panel A and B are not statistically significant at any conventional level, these results may be interpreted as evidence that the effect of free float on stock price, based on Miller's framework, will not occur if there is no divergence of opinion among investors. This implication is theoretically reasonable if consider the effect on demand-supply viewpoint. Based on Miller's framework, the demand curve of investors will be horizontal line when the investors' opinions do not diverge. This implies that the shift of supply curve (or the change of free float) cannot affect the equilibrium price of the asset. Clearly, this is one of the important implications offered by this research.

Since Hong, Scheinkman and Xiong (2006) suggest that stocks with lower free float are more prone to bubble, the evidences from this research somehow add more potential fact from their suggestion by stating that such stocks are even more prone to bubble if there is a higher degree of opinion divergence.

2.1.   Potential Explanations

As mentioned in section 3.1, even when the author controls the investors' degree of opinion divergence, the empirical evidences still suggest that free float is negatively related to stock future returns, which are inconsistent with the prediction from hypothesis 1. Nonetheless, these evidences appear to be consistent with the proposition from Weill (2008) who argues that free float can be used as a liquidity proxy. The Float-adjusted return model (FARM) proposed by Weill (2008) suggests that free float and liquidity risk

have an inverse relation, which means stocks with lower free float tend to have higher liquidity risk. If this type of risk is reflected in stock prices, such stocks should offer higher liquidity premium and hence higher expected return. The opposite is true for the case of stock with higher free float. This logic implies the negative relation between free float and stock future returns. Therefore, the evidences from section 3.1 seem to suggest that free float does not affect the stocks in the manner that derived from Miller's framework.

However, the results from section 3.2, offer two facts to this research. First, the results show that the coefficient estimates of interaction term of $FFR_t - FFR_{t-1}$ and proxy of degree of opinion divergence (i.e. $DISP$ and IDV) are negative and statistically significant. This evidence implies that the degree of opinion divergence is one of the factors that affects the sensitivity of stock price to free float. To be precise, the greater degree of opinion divergence, the greater negative effect of free float on stock price. Second, since the coefficient estimates of $FFR_t - FFR_{t-1}$ are not statistically significant at any conventional level, the effect of free float, based on Miller's framework, will not be likely to occur if there is no divergence of opinion among investors. These two facts suggest that if we assume that the opinions among investors diverge, free float will be negatively related to the stock prices. If we differentiate the regression model of hypothesis 3 with respect to $FFR_t - FFR_{t-1}$, we will obtain the following equation that can mathematically explain the logic:

$$dCR_{i,t} / d(FFR_{i,t} - FFR_{i,t-1}) = \mu_3 DIV_{i,t-1}.$$

Since the results from section 3.2 indicate that the estimate value of μ_3 is negative and significant but estimate value of μ_1 is not significant at any conventional level, this equation then puts forward to the evidence that if there is a divergence of opinion among investors (i.e. the values of DIV exist) and the difference of free float between month t and month $t-1$ increases further by one unit, the current return will decrease by the absolute value of $\mu_3 DIV_{i,t-1}$ and hence the decrease in stock price. The opposite is true for the case that the difference of free float decreases. This suggests that free float tends to work as a stock supply and the effect of free float based on Miller's framework may exist because if we assume that there are two identical stocks with different level of free float, the stock with lower free float should exhibit higher equilibrium price and yield a lower future return.

Although the evidences from section 3.1 and 3.2 seem to be conflicting, there is a possibility that the effect of free float based on Miller's framework still exists because it might be the case that we cannot observe such pattern of evidences for the reason that it is somehow dominated by the liquidity effect. The negative coefficient estimates in section 3.1 do not necessarily suggest that the predicted effect does not exist because evidences from section 3.2 argue that the increase of free float tends to make the stock prices lower, and if higher free float stock is compared to the identical stock with no change of free float, the stock with higher free float should exhibit a lower equilibrium price and hence a higher expected return. However, as explained by Weill (2008), the change of free float also changes the liquidity risk of stock. Hence, if the liquidity effect dominates the predicted effect of free float, we will observe the negative relationship between free float and stock future return despite the fact that the predicted effect still hold true.

To reconcile the inconclusive results, the author uses turnover of stocks as a proxy for liquidity, as suggested by Pastor and Stambaugh (2003), to observe its relationship with free float and stock future return. By using stock turnover as a liquidity proxy, the author finds supportive evidences for the conjecture discussed above. Turnovers of each stock are retrieved from Thomson Reuters Datastream and is defined as a ratio of total amount of share traded to total number of shares outstanding. The turnover data are already adjusted for capital events or corporate actions. For stocks that are traded in more than one exchange, only default turnover based on primary market are retrieved. Table 5 presents the summary statistics of turnover ratio

According to Weill (2008), higher free float implies higher liquidity (or lower liquidity risk), which suggests that turnover should be positively related to free float. Based on this logic, the author determines their relationship by running a pooled cross-sectional regression of the monthly turnover (*TOV*) on monthly free float (*FFR*). The equation is as follows:

$$TOV_{i,t} = \alpha_i + \beta_i FFR_{i,t} + \varepsilon_i.$$

Where *TOV* represents the turnover ratio of each stock i which is measured at the end of month t.

Table 6 reports the regression results regarding the relationship between *TOV* and *FFR*. The coefficient estimates is 0.0538 and statistically significant at the 1% level. The results suggests that stock turnover and free float is positively related. In other words, stock with higher free float is likely to offer a higher liquidity to

investors. The opposite is true for the case of stock with lower free float. Hence, the evidence is consistent with argument from Weill (2008).

Table 5. Summary Statistics of stock turnover (*TOV*).

Variables	Observations	Mean	Std.Dev.	Min	Max
TOV (%)	81503	22.2669	23.87	0.0069	1045.032
Number of firms	497				

Table 6. Regression results regarding the relationship between turnover ratio (*TOV*) and free float (*FFR*)

Variables	TOV
FFR	0.0538***
	(0.00414)
Constant	0.189***
	(0.00332)
Observations	69,924
R-squared	0.021

Table 7. Correlation matrix of turnover ratio (*TOV*) and *k*-period future returns

	TOV	One-month period return	Two-month period return	Three-month period return	Six-month period return	Twelve-month period return
			Correlation Matrix			
TOV	1.0000					
One-month period return	-0.0174	1.0000				
Two-month period return	-0.0178	0.7208	1.0000			
Three-month period return	-0.0211	0.5791	0.8257	1.0000		
Six-month period return	-0.0021	0.4277	0.6066	0.7327	1.0000	
Twelve-month period return	0.0127	0.2941	0.4124	0.5040	0.7092	1.0000

Additionally, the author also computes the correlation matrix between stock turnovers (*TOV*) and stock future return in each *k* month(s) period which is displayed in table 7. The results show that correlation coefficients of stock turnover and stock future return in all periods are negative except for twelve-period future return. These evidences indicate that stock future return is likely to be negatively related to the stock turnover,

which is the same direction of relation between free float and stock future return as reported in section 3.1. Hence, the evidences from table 6 and 7 seem to suggest that free float is linked with the level of stock's liquidity and the results from section 3.1 are likely to reflect the liquidity effect on stock future return.

Based on the evidences discussed above, free float seems to affect stock liquidity and equilibrium price simultaneously. Hence, the author's conjecture is that the predicted effect of free float on stock future return might still be valid but we cannot observe such pattern of evidences because the liquidity effect dominates the results. If this conjecture is true, the results shown in section 3.1 will be unsurprised because the regression model is not designed for distinguishing between predicted effect and liquidity effect. Since the liquidity effect of free float on stock performance is beyond the scope of this paper, this will remain an important topic for future research.

4. Conclusion

This research is basically build on the literatures regarding free float and divergence of opinion hypothesis. Several previous works have been mainly focusing on free float effect on liquidity or stock performance but fail to consider under the assumption that investors have a divergence of opinion. Hence, empirical results in this research can provide effect of free float on stock performance in the different viewpoint. The objective of this study is to provide empirical evidences in regard to the effect of free float on stock future return when the investors' degree of opinion divergence is controlled, and also to provide evidences in regard to effect of free float change on stock prices when divergence of opinion varies. Lack of free float analysis on this framework is the gaps filled in this research.

The empirical results show that even when the author controls the investors' degree of opinion divergence, free float and stock future return still exhibit the negative relation and most of coefficient estimates are significant at the 1% level. This evidence is inconsistent to the prediction and possibly implies that Miller (1977)'s theory might not hold true. However, the results show that divergence of opinion affects the sensitivity of stock price to free float in the negative direction. The coefficient estimates of the interaction term of difference of free float and investors' degree of opinion divergence are statistically significant at the 5% and 1% level. This evidence is consistent with the prediction of this research. However, the interesting fact is that most of the coefficient estimates of difference of free float alone does not exhibit a statistical significance. This evidence suggests that the effect of stock supply will only occur if the opinions among investors diverge. This logic makes sense in term of economics theory because if there is no divergence of opinion, demand curve of investors will be horizontal line. Therefore, the shift of supply curve is unable to affect the equilibrium price of an asset. As a result, the evidence is supportive to Miller (1977)'s theory.

Overall, the results seem to be conflicting. If free float affects stocks in a manner that derived from the mispriced theory, the results should show a positive relation between free float and stock future return. However, the author finds that these evidences are in line with the proposition from Weill (2008) who suggests that free float should be used as a proxy for asset liquidity. He explains that higher free float means higher liquidity and hence lower liquidity risk. Therefore, stock with higher free float should offer lower expected return. As a result, this logic argues that free float should be negatively related to stock future return. The author finds the supportive evidence to this logic by using stock turnover as a proxy for stock liquidity and determines the relationship between free float and stock turnover by running the pooled cross-sectional regression. The results indicate the positive relation between free float and stock turnover in which the coefficient estimates are statistically significant at the 1% level. This evidence informs that free float is positively related to liquidity as suggested by Weill (2008).

Based on all of the evidences discussed above, free float therefore seems to affect stock liquidity and equilibrium price simultaneously. Hence, the author conjectures that the predicted effect of free float to stock future return is still valid but such evidences are unobservable because the liquidity effect dominates the results. If this conjecture is true, the conflicting results will be expectable because the regression model is not designed to exclude the liquidity effect from free float. Since the liquidity effect of free float on stock performance under the divergence of opinion hypothesis is beyond the scope of this paper, this serves as an important topic for future study.

The main implication of this study is that when investors aim to analyze the effect of free float on stock price, they should also consider the effect of opinion divergence along with its effect. Moreover, this is also important to the regulators because the implication suggests that a dramatic change of free float of the stocks that have a significantly high degree of opinion divergence implies the dramatic change of the equilibrium price. Regulators should be careful with such stocks and design some specific regulation to control the level of free float to mitigate its effect.

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Factors affecting customer loyalty: A case study of BCEL bank in Lao PDR.

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Abstract

The purpose of this research is to examine the factors affecting customer loyalty of a BCEL bank in Vientiane, Lao PDR. The conceptual framework was developed to represent the relationship between customer loyalty (dependent variable) and its influencing factors which including service quality (tangibility, reliability, responsiveness and assurance), switching cost, trust, reputation, habit, customer satisfaction (independent variable). The researcher surveyed on 400 respondents who had experienced with BCEL bank in Vientiane for more than three years. Then, this research has five hypotheses and the collected data was analysed by using SPSS program, Person Correlation Coefficient and Multiple Linear Regression to test the relationship among factors. The result shows that between all five sub-variables of service quality and trust, switching cost, reputation, habit, customer satisfaction, and customer loyalty have a positive relationship. Moreover, trust and customer satisfaction with customer loyalty have a positive correlation. Finally, trust has a statistical significant effect on customer satisfaction.

Keywords: Customer loyalty; BCEL bank; Lao PDR:

1. Introduction

The banking industry in Lao has traditionally operated in a fairly stable environment for decades. However, modern banking has been very much influenced by globalization. Regulatory, structural and technological factors are significantly changing the banking environment throughout the world, which is leading to very intense competitive pressures (Grigoroudis, Politis and Siskos, 2002). At the same time, the Government of Lao has taken several steps and reforms for its banking industry such as privatizing a number of banks, which further increases the competition among banks. The competitiveness and dynamic nature of the financial system is creating a great need to focus more on the customers rather than the product in order to be competitive. Customers are considered very critical for any organization's success. Maintaining existing customers for organizations is ever more important than the ability to capture new ones (Wang, Lin and Su, 2003). Hence, the traditional product-oriented is becoming increasingly customer-oriented, which focuses more on customer loyalty (Gilmar, 2007). Loyalty and profits are strongly linked to value created for customers; customers are loyal to a company as long as it offers them superior value compared to its competitors. When they are loyal to a firm, consumers may minimize time expended in searching and in locating and evaluating purchase alternatives (Yang and Peteron, 2004). The banking industry in Lao PDR continue to grow, the researcher is highly interested in conducting a research on customer loyalty towards BCEL bank among Lao consumers. However, only a few studies concerning customer loyalty of BCEL bank have been conducted in Lao PDR. Therefore, the researcher is interested in studying this topic and the main study's objective is to investigate the variables that may have an influence on customer loyalty toward BCEL bank among Lao customers.

1.1 Customer loyalty

According toOliver (1997), Customerloyalty is a deeply held commitment tore utilizes or re-buys a preferred product or service consistently in the futureeven though the situational influences and the marketing efforts will have the potential to cause switching behaviour.The willingness of customers to purchase the same products and retain the same profitable relationship with the particular company (Inamullah, 2012).

1.2 Service quality

Parasuraman *et al.* (1988) defined that service quality is the difference between customer expectation towards service providers' performance and the evaluation of the customer to the services that they experienced before. Uhl and Upaj (1983) stated that service is intangible and incapable of accompanying a product. In this study, the researcher applied the definition of Parasuraman *et al.,* (1988) for a good example of operating a standardized framework of service quality is the SERVQUAL model. There are five generic dimensions in SERVQUAL model. However, in this study the researcher selected only four variables as follow:

- *Tangibility*: Tangibility is the appearance of physical ability like operational facility and other equipment (Zeithaml *et al.*, 1988).

- Reliability: Reliability is the ability to perform the service consistently and accurately (Zeithaml *et al.*, 1988).

- *Responsiveness:* Responsiveness is the willingness of a company's staff to help customers and provide prompt service (Parasuraman *et al.*, 1988).

- *Assurance:* The knowledge and civility of employees and their abilities to convey trust and confidence (Fitzsimmons, 1994).

1.3 Trust

Gill e*t al.* (2006) described that trust is a critical variable to contribute towards healthy and long-termcustomer relationships, and trust is also considered to become stronger when customers are used to dealing with the same service provider for a long period of time. Ostrom and Lacobucci (1999) indicatedtrust as the willingness of customers to completely rely upon an exchange service partner in whom one has complete confidence. Customers' trust upon service might differ depending of their trust towards the firm or the service provider.

1.4 Switching cost

Shergill and Bing (2006) indicated that switching cost is another determinant of brand loyalty and which can bethe financial, technical or psychological factor and make expensive or difficultly for customers tochange to the other brand or service provider. Aydin and Ozer (2005) also observed that switching cost can be a cost that deters customers from demanding a rival firm's brand.

1.5 Reputation

Hellier (1993) defined that reputation as the perception of quality in the service associated with the brand name. Herbig and Milewicz (1993) also mentioned that reputation is the estimation of the consistency over time of an attribute of an entity. Aaker and Keller (1990) defined reputation as a perception of quality associated with a firm's name.

1.6Habit

Kernerman (1996) defined habit as something which a person is used to doing usually or regularly. Gefen (2003) also indicated that habit is an individual usually does when there is a behavioural preference in the present. Aarts *et al.* (1998) stated that most of the habitual behaviours arise and proceed effortlessly, efficiently, and unconsciously and habit also can predict the customers' future behaviour.

1.7Customer satisfaction

Brown (1992) indicated that customer satisfaction is a state in which customer's wants, needs and expectations through the products or services life are met to their requirements or exceed their resulting from repurchase, loyalty and positive word-of-mouth. Levesque and McDougall (1996) also indicated that satisfaction is a totally perfect attitude of customers towards the service providers.

2. Hypotheses development

Based on several previous studies, there are many independent variables that have impacts on customer loyalty concerning banking industry. Though, Zahorik and Rust (1992) assumed that modeling of perceived service quality is a predicator of customer loyalty and which can provide significant diagnostic result. Fornell *et al.* (1996) also explored that firms, which have a high level of the perceived service quality will also have a high level of customer loyalty. Besides trust, switching cost, reputation, habit and customer satisfaction are widely used by researchers in studying consumer loyalty. (Lau *et al*., 2013; Anka *et al*., 2013; Yee and Yeung, 2004; Fakhraddin, 2013; Stan *et al*., 2013). Sanjit Kumar *et al.* (2011) indicated that trust is a crucial factor to maintain and develop on good relationship with customers especially for long-term relationships with the customers. Kon (2004) explored that if the costs of switching to other brands are higher for the customer, there will be a greater probability that the customers will remain loyal in terms of repurchase behavior as a consequence of the expense or risk involved in switching and the accompanying decrease in the appeal of other alternatives. Nguyen and Leblanc (2001) also explored that reputation is an important determinant of customer loyalty and good corporate reputation will reinforce customer to repurchase the samebrand. Andreassen and Lindestad (1998) stated that reputation is the stronger driver and an antecedent of customer loyalty. Liao *et al.* (2006) also stated that if the behaviour is driven by habit, it is considered to have more effects on customer repurchase or loyalty. Finally, Han and Ryu (2009) stated that there is a positive and direct relationship between customer satisfaction and loyalty. Mittal and Lassar (1988) also mentioned that customer satisfaction is the important determinant for customer loyalty in the service industry. This study proposes the following hypotheses:

H1: Service quality in terms of tangibility, reliability, responsiveness and assurance do statically significantly influence with customer satisfaction with BCEL bank.

H2: Service quality in terms of tangibility, reliability, responsiveness and assurance do statically significant influence customer loyalty with BCEL bank.

H3: There is a statistically significantly relationship between trust and customer satisfaction with BCEL bank.

H4: Trust, switching cost, reputation and habit do statically significantly influence customer loyalty with BCEL bank.

H5: There is a statistically significantly relationship between customer satisfaction and customer loyalty with BCEL bank.

Figure 1. Conceptual Framework
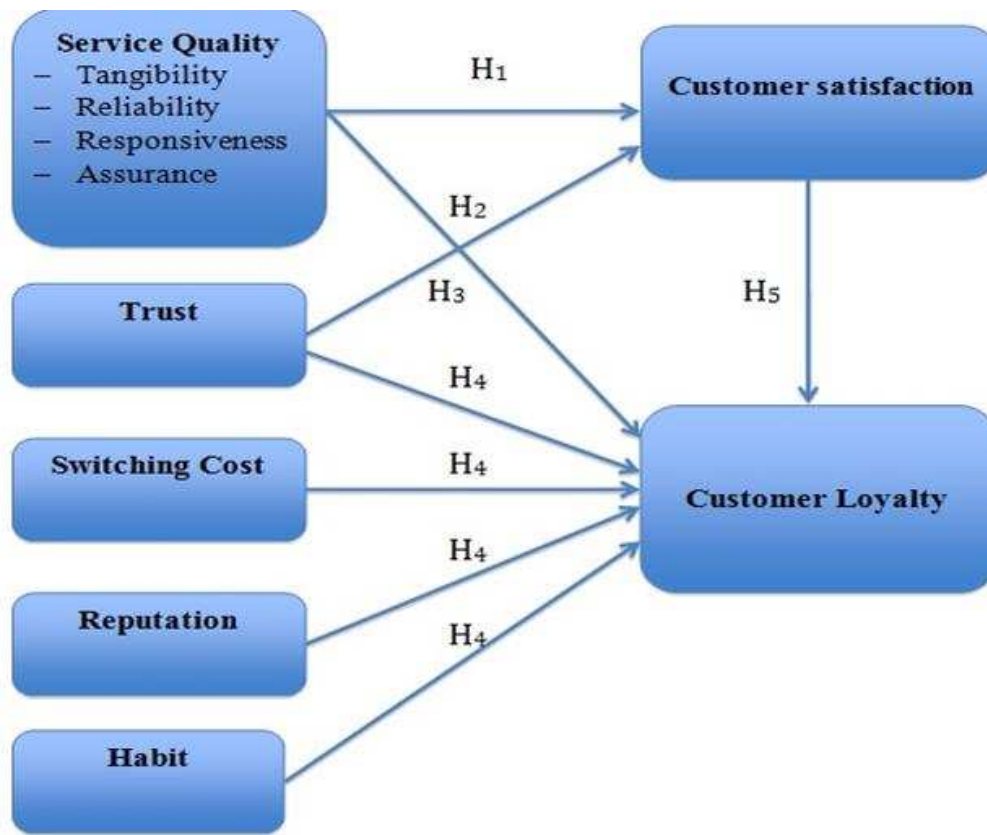
3. Methodology

3.1. Research Method Used

The researcher applied descriptive research to develop this study. Aaker *et al.* (2000) defined that descriptive analysis is the procedure to collect, summarize, classify and present data. Zikmund (1999) also stated that descriptive analysis is the transformation of raw data into a form, which will make them easy to understand and interpret. Sekeran (1992) claimed that inferential analysis exhibits how variables relate to each other or whether there is any difference between two or more groups. Pearson Correlation Coefficient and Multiple Linear Regression Analysis were also employed for data analysis. In addition, a survey method was adopted to gather information from respondents because of its empirically relevant advantages such as cost-effectiveness and flexibility.

3.2. Data Collection

The researcher applied both primary and secondary data to achieve the objective of this study. The researcher applied the survey technique for collecting data as primary data. Even though the distributed numbers of questionnaires are 420 copies, the researcher use only 400 questionnaires for the analysis of data to reduce errors in this study. The target populations of this research were both male and female customers who had experienced with BCEL Bank in Vientiane for more than three years. The research conducted in BCEL bank's service centers in Vientiane. There are a total of 13 service centers in Vientiane. In this research the researcher selected 6 most populated service centers in Vientiane. The researcher collected the primary data on weekdays (Monday to Friday) from 11.00 am to 5.00 pm and on weekend (Saturday and Sunday) from 10.00 am to 5.00 pm. The data collected at a specified time during June and July 2015.

4. Results

The major group is the female group (65 per cent, 260 respondents). The majority of the respondents are between 35 and above years old (50 per cent, 200 respondents). The largest personal income in a month is between 700,001 - 800,000 Kip (26.3 per cent, 105 respondents) with a bachelor degree (43.80 per cent, 175 respondents) as the highest educational level and most are private company employees (41.3 per cent, 165 respondents).

Table 1: the summary of demographic factors

Demographic Factors	Major Group	Percentage sand numbers
Gender	Female	65%(260)
Age	35 and above	50%(200)
Education level	Bachelor Decree	43.80%(175)
Income level (per moth)	700,001-800,000 Kip	26.3%(105)
Occupation	Private company Employee	41.3%(165)

Based on the hypothesis tested by Multiple Linear Regression Analysis, Services quality in term of (tangibility, reliability, responsiveness, assurance) and trust, switching cost, reputation, and habit influence customer loyalty toward BCEL bank. By considering the beta coefficient the assurance has the highest beta value (Beta= 0.419), followed by reputation, tangibility, switching cost, trust and habit.

Table 2. The summary of hypotheses testing results by multi linear regression analysis

| Hypothesis	Sub variables	Significance	Beta	Result
H1: Service quality in terms of tangibility, reliability, responsiveness and assurance statically significantly influence customer satisfaction with BCEL bank.	-Tangibility	.000	.267	Rejected H1o
	-Reliability	.286	-.065	Failed to reject H1o
	-Responsiveness	.000	.302	Rejected H1o
	-Assurance	.120	.109	Failed to reject H1o

H2a: Service quality in terms of tangibility, reliability, responsiveness and assurance statically significant influence customer loyalty with BCEL bank.	-Tangibility	0.086	.074	Failed to reject H2o
	-Reliability	0.037	.091	Rejected H2o
	-Responsiveness	0.057	.107	Failed to reject H2o
	-Assurance	0.000	.419	Rejected H2o
H4$_a$: Trust, switching costs, reputation and habit statically significant influence customer loyalty with BCEL bank.	-Trust	.000	.195	Rejected H4o
	-Reputation	.868	.008	Failed to Reject H4o
	- Switching cost	.000	.256	Rejected H4o
	-Habit	.006	.145	Rejected H4o

According to the hypotheses tested by Pearson Correlation Coefficient method, A Pearson's correlation coefficient value between trust and customer satisfaction variables is 0.277, and coefficient value between customer satisfaction and customer loyalty is 0.238 which means that there are a weak positive relationship, the researcher can conclude that these variables move in the same direction.

Table 3. The Summary of hypotheses testing results by Pearson Correlation.

Hypotheses	Results	Significant	Correlation Coefficient
Hypothesis 3	There is a statistically significant relationship between trust and customer satisfaction with BCEL bank.	0.000	0.277**
Hypothesis 5	There is a statistically significant relationship between customer satisfaction and customer loyalty toward BCEL bank	0.000	0.238**

5. Discussions and Implications

The researcher studied about the influencing factors which affect customer loyalty toward BCEL bank Vientiane, Lao and the primary data are collected from the respondents have maintained an account with BCEL bank for more than three years. In order to analyze the relationship between the variables, the researcher collected data samples from the (6) most crowded BCEL service centers in Vientiane, Lao during July and August of 2015. The researcher applied (5) demographic factors; gender, occupation, age, monthly income, highest education level in this study.

The researcher utilized the Pearson correlation and Multiple Linear Regression to test the correlation of each hypothesis in this study. The researcher designed five hypotheses and (10) variables; tangibility, responsiveness, reliability, assurance, trust, reputation, switching costs, habit, customer satisfaction and customer loyalty in this study. The detailed results of this study are as follows;

The results of hypothesis one showed that there is a statistically significant effect of service quality in terms of tangibility and responsiveness, which has a statistically significant effect on customer satisfaction. However, reliability and assurance had no statistically significant effect on customer satisfaction. By considering the beta coefficient the researcher showed that tangibility and responsiveness have a positive influence on customer satisfaction with BCEL bank. Responsiveness has the highest beta value which is equal to .302, which means that it affects customer satisfaction with BCEL bank the most and tangibility has the lowest beta value which is equals to .267. This result was supported by Sabir*et al.*(2014), where study was to analyze the impact of service quality on customer satisfaction in the banking sector in Pakistan, and the results showed that there is a positive relationship between service quality and customer satisfaction.

The results of hypothesis two showed that there is a statistically significant effect of service quality in terms of reliability, and assurance has a statistically significant effect on customer loyalty. However, tangibility and responsiveness have no statistically significant effect on customer loyalty. By considering the beta coefficient, the researcher showed assurance and reliability have a positive influence on the customer satisfaction on BCEL bank. Assurance has the highest beta value, which is equal to .419, which means it affects customer loyalty toward BCEL bank the most and reliability has the lowest beta value, which is equals to .091.The result of this hypothesis was supported by the study done on perceived service quality and customer loyalty in retail banking in Kenya and the results pointed out that service quality has a very strong significant positive relationship with customer loyalty (Auka*et al*., 2013).

The results of hypothesis three show, there is a weak positive relationship between trust and customer satisfaction**.** This result indicates that trust in BCEL bank influences consumers satisfaction. The result is also supported by the study about the impact of trust on customer satisfaction and the result indicated that trust has a very strong significant positive relationship with customer satisfaction (Nazaripour, 2013). The BCEL bank has been accredited with the international standard of ISO 9001-2008 for banking operations and international services, which is basically a trust-building image in their customers. It has also been awarded the prestigious Platinum technology award for quality and best trade name for the year 2013 and BCEL has been operating for more than two decades with incredible profit margins, which reinforces trust in BCEL bank among its customer base.

The result of hypothesis four showed that there is a statistically significant effect of trust, switching costs and habit on customer loyalty. However, reputation has no statistically significant effect on customer loyalty. By considering the beta coefficient the researcher indicated trust, switching costs and habit have a positive influence on customer loyalty with BCEL bank and beta weights are coefficients of regression for un-standardized data, which really helps to understand the relative importance of the independent variable in the model. Switching costs has the highest beta value, which is equal to .256 and it means customer loyalty toward BCEL is strongly affected by its switching costs and habit has the lowest beta value, which is equal to .145, and means customer loyalty toward BCEL bank is less affected by habit.

The result is also supported by the study about the factors affecting customer loyalty of using internet banking in Malaysia and the result indicated that trust and habit have a strong significant positive relationship with customer loyalty (Yee and Faziharudean, 2010).

The results of hypothesis five showed that there is a weak positive relationship between customer satisfaction and customer loyalty**.** This result indicates that customer satisfaction with BCEL bank influences consumer loyalty. The result is also supported by the study about the factors affecting customer loyalty in financial services of commercial banks in Jordan,and the result indicated that customer satisfaction has a very strong significant positive relationship with customer loyalty (Megdadi*et al.,* 2013).

6. Further Study

This study was designed to understand the factors affecting customer loyalty toward BCEL bank in Vientiane, Lao. The following are the recommendations pointed out for future studies. Frist, the researcher in this study focused only on ten variables because of the limited timeframe and the cost. Further studies could focus on other variables; such as customer value, which was supported by Pin Luarn*et al.* (2003); who studied the factors affecting customer satisfaction of e-banking: 7Ps;which was supported by Mohammed (2015) who studied the affect of 7Ps on customer satisfaction in the retail banking sector in Nigeria. Second, this research was only focused on BCEL bank. Further studies could be conducted on other regional banks such as the Lao development Bank, Phongsavanh Bank and foreign banks such as ANZ Bank, ICBC Bank, and Indochina Bank. Third, further studies should use the qualitative method to get a much deeper inside understanding and to explore the causal relationship among variables by using other research techniques such as observation, in-depth interviews and focus groups. Fourth, in this study the researcher just studied about the relationship between reputation, trust and customer loyalty. Further studies could be conducted to understand about drivers leading to reputation and trust. Finally, This study is conducted in Vientiane, Lao and this research can only represent the customer loyalty of BCEL bank customers who live at Vientiane. Further research could be conducted in other provinces of Lao such as Champasak province, Savannakhet province or Luangprabang province.

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Measuring Investors' Behavioral Bias from the Movement of Currency Forward Rate

Busakorn Wongwanit

Abstract

This research investigates how behavioral finance can explain the failure of forward rate unbiasedness hypothesis (FRUH) by using the combined influence of two main psychological factors as the explanations: representativeness (over-reaction) and anchoring heuristic (under-reaction) to explain bias in the trading activity observing on eight major currencies: Australian Dollar (AUD), Canadian Dollar (CAD), Swiss Franc (CHF), Euro (EUR), British Pound (GBP), Japanese Yen (JPY), New Zealand Dollar (NZD) and Mexican Peso (MXN). Also, this research examines whether risk aversion factor is the determinant of the failure of FRUH and investigates behavior of investors in the trading of foreign exchange rates at how they behave when the risk level of the market changes by using risk aversions factor as the measurement variable. Apart from this, this research studies the unbiasedness that may occur from anchoring. The result shows that the over-reaction and under-reaction can explain some errors in the forecast as investors are systematic under-reaction at short-horizon and over-reaction at medium- and long- horizons for every currency pairs. For a specific anchoring bias testing, this research finds that anchoring can also explain some errors in the forecast since the more of anchoring components when compared to the current forecast of future spot rate, the greater the forecast errors. Therefore, unbiasedness in the forecast of future spot exchange rate does not occurs from the anchoring. Moreover, the result indicates that general investors tend to be risk averse during the examined period. Specifically, individual investors are risk seeking, while institutional investors tend to be risk averse.

Keywords: FORWARD RATE BIAS / BEHAVIORAL BIAS / MARKET RATIONALITY / RISK AVERSION

1. INTRODUCTION

The relationship between spot and forward rates is significant for market participants for a hedging and a speculating perspective. Many prior studies have found that forward premium is a biased forecast of the future change in the spot exchange rate. Froot and Thaler (1990) looked at the coefficient on the forward premium (β) from lots of papers observed on major currencies and found that the coefficient are not only smaller than the theoretical standard value of 1, but their average value is in the negative sign, which means the forward rate actually points in the wrong direction. These lead to the fact that the forward exchange rate is a biased predictor of the future spot exchange rate named in the literature as the forward premium (discount) puzzle, which is the failure of FRUH. Many researchers have tried to find potential explanations of the failure of FRUH including the risk premium theory, systematic expectations theory and statistical issues theory. Previous empirical studies generally test for the rationality of the forecasts on general properties such as bias or autocorrelation in errors, which provide limited insights into behavioral interpretations behind inefficient forecasts.

Behavioral finance is one of the most dynamic and promising fields of economic research as there is an increasingly large number of empirical researches that cannot be explained by the standard tools and approaches of mainstream economics; however, it can be reasonable explained by behavioral finance that gives psychology-based theories to explain investors' behavior as well as market anomalies. Until now, only currently few researchers explore on behavioral finance to explain the failure of FRUH by using behavioral factors to explain such variation of the forward rate bias across currencies.

Risk aversion is generally human behavior to avoid risk or uncertainty, especially for consumers and investors. Risk averse investors stay away from high risk investments and tend to prefer investments that give a certain return. Rieger et al (2011) studied about the prospect theory around the world and discovered that risk aversion of each countries are different. Emerging countries tend to be more risk averse. The causes are not only from economic condition, but also cultural factors. They stated that cultural difference do not create the qualitatively difference of risk preference as most people worldwide tend to follow behavior of prospect theory introduced by Kahneman and Tversky (1979): risk averse in gains, risk seeking in losses and loss aversion since most people tend to value gains and loss differently and feel that loss have emotional impacts than the similar amount of gain. Mohanram and Gode (2013) and Aggarwal, Lucey and Conner (2014) find that there is a strong linkage between risk aversion factor and analysts' forecast errors for asset markets such as equity and gold markets. Since forecast revisions may be influenced by behavioral bias that allow price to deviate from market rationality, this paper aims to capture the behavioral bias of investors. Thus, risk aversion might be the determinant of the failure of FRUH in foreign exchange market and to my knowledge, there is no research recently has been studied about the risk aversion factor and forecast errors in foreign exchange market. Structure

1.1 Objective of the Study

As the sources of forward rate bias are still unclear and only few researches have examine the possible explanation of the failure of FRUH across currencies using behavioral finance, the main objective of this research is to shed possible explanations on the failure of FRUH using the combined influence of two main psychological factors as the explanations: representativeness (over-reaction) and anchoring heuristic (under-reaction) to explain bias in the trading activity observing on eight major currencies listed in the Chicago Mercantile Exchange (CME), which are Australian Dollar (AUD), Canadian Dollar (CAD), Swiss Franc (CHF), Euro (EUR), British Pound (GBP), Japanese Yen (JPY), New Zealand Dollar (NZD) and Mexican Peso (MXN). This research examines whether risk aversion factor is the determinant of the failure of FRUH by using Put-Call ratio as the measurement variable. Also, this research aims to gauge investors' behavior in the trading of foreign exchange rates, which are dealer intermediary, asset manager, leverage fund and others reportable at how they behave when the risk level of the market changes. Furthermore, this research aims to investigate whether the unbiasedness that may occur from anchoring. The research questions are as following:: Does risk aversion factor plays an important role in explaining the failure of forward rate unbiasedness hypothesis (FRUH)?, How representativeness (over-reaction) and anchoring heuristic (under-reaction) of the trading activity explain errors in the forecast of future spot exchange rates? And does the unbiasedness occur from anchoring?

1.2 Contribution

Previous empirical studies generally test for the rationality of forward rate as forecast of the future spot rate for broad property which is bias or autocorrelation in errors. Many researchers try to find possible explanations of the failure of FRUH such as the risk premium theory, systematic expectations theory and statistical issues theory. Such studies provide limited insight to the behavior factors that driving to the failure.

One motivation behind this work is aiming to investigate behavior of investors in the trading of foreign exchange rates and look at how investors behave when the risk level of the foreign exchange market has changes. Also, this research aims to test whether risk aversion factor is the determinant in the failure in the forecast of future spot exchange rate. Specifically, I study the over- and under- reaction of the trading activity on how can they explain some errors in the forecast. Moreover, this research examines whether the unbiasedness occurs from the anchoring and whether anchoring shed possible explanations in forecast errors of future spot exchange rate.

The organization of this thesis is as follows: Chapter 1 present the Introduction and motivation behind this thesis while Chapter 2 provide the literature reviews of past related researches in the efficient market hypothesis, behavioral decision theory, rationality test of forward rate as forecast of future spot rate, forward rate unbiasedness hypothesis and possible explanations of failure of FRUH. Chapter 3 present the developed hypothesis. Chapter 4 shows data and descriptive statistic of the sample. Chapter 5 shows the methodology to answer the research questions. Chapter 6 provides the conclusions of this thesis.

2. LITERATURE REVIEW

2.1. The Efficient Market Hypothesis

To begin with, the efficient market hypothesis (EMH) was firstly introduced by Fama (1970). This theory consists of three types of market test with the market efficiency concepts based on various information sets (i) The Weak Form: Past information is already reflected on price, or the foreign exchange rate forecasting based on historical exchange rate. (2) The Semi-Strong Form: Public information is united in the asset price, or the prediction of foreign exchange rate based on the availability of public information and (3) The Strong-Form: All available information, together with the private information is reflected in the asset price, or forecasting of foreign exchange rates made by agents, such as the central bank, who may have more information than others.

Lots of researchers support the weak-form tests, which show that the technical analysis model, which observes on the basis of past realized spot rate is a technique for predicting changes in foreign exchange rate, do better than the fundamental analysis model at predicting foreign exchange rate in the short run. The results of De Nederlandsche Bank and the Bank of Canada also state that although the central bank own more information in term of monetary and exchange rate policy, they cannot predict the future spot rate. Many researchers conclude that fundamental analysis models using publicly available macroeconomic variables to estimate exchange rates, such as inflation and interest rates, are not successful in predicting foreign exchange rate in the short-run. Grossman and Stiglitz (1976) contributed an important message that information is costly to collect and analyze, so not all information will be collected. Therefore, market will never be fully efficient or strong-form.

2.2. Behavioral Decision Theory

A large number of empirical researches in behavioral decision making has shown that intuitive predictions of people are directed by heuristics influence that sometimes lead to biases. Heuristics are the using of past experiences to make quick decisions that normally systematically deviate from normative statistical rules. As stated by Staw (1981) that people tend to have a strong commitment to a course of action once a choice is made. Many researchers investigate whether such heuristics affect the predictions of important financial variables such as earnings [Amir and Ganzach, 1998; DeBondt and Thaler, 2009; Marsden, Veeraraghavan and Ye, 2007]. The developments in behavioral decision theory indicate that the forecasters are often affected by two main heuristics principles: representativeness heuristic (over-reaction) and the anchoring and adjustment heuristic (under-reaction).

The representativeness heuristic leads to excessively extreme predictions or overreaction. Overreaction means people place too much weight on recent information in forming their expectations regarding future events. It was firstly defined by psychologists named Kahneman and Tversky in the 1970s. It is a decision-making shortcut that use recent past experiences to guide the decision-making process. In the psychological term, it refers to the conception that when people confront with a new experience and have to make decision in that situation, they automatically rely on the current past experiences as mental representations to guide their decisions. Relying on past experiences allow for quick conclusions, but the accuracy might be bias because the fact that a new situation and the situation exists in the memory cannot be comparable. Shefrin (2000) said that representativeness is about reliance on stereotypes. The Gambler's Fallacy is one of examples of representative heuristics. The example situation is that if a coin was flipped 10 times, and each time it landed with the "heads" side facing up, someone relying on gambler's fallacy would believe the chance of it being heads the 11th time would be very low. However, in reality the probability does not change. The probability of a coin being heads or tails is still 50 percent no matter how many times the coin is flipped. Another example is that investors may conclude earning growth from a consistent past histories earning growth of some companies too far into the future. Then, investors over-value and overprice these companies and become disappointed in the future when the forecasted earnings growth is not as expected because they use the representativeness heuristic without considering that a history of high earnings growth is unlikely to repeat itself. Kahneman and Tversky stated that people have tendency to be overly influenced by the judgment of representativeness since representativeness is the automatic adjustment to assess similar outcomes and then to use these assessments of similarity as a basis of judgment. Shiller (2000) stated that representativeness heuristic is another aspect of overconfidence as people tend to make judgments to uncertain situations by looking for past familiar patterns and assuming that future patterns will repeat past ones, frequently without enough consideration of the reasons. Such overreaction tends to drive prices to be above their fair or rational market value, only to have rational investors take opposite side

of the trades and bring prices eventually back in line. In other words, investors interpret the data of recent past earning using the representativeness heuristic in forecasting of future earnings. Therefore, the representativeness heuristic is the evidence of overreaction described above.

The anchoring and adjustment heuristics leads to under-reaction. Under-reaction means people place too little weight to recent information. Kahneman and Tversky (1974) also introduced the concept of anchoring and adjustment. They stated that in many situations, people make decisions by starting from an initial value and adjusted to yield the final answer. However, the adjustments are naturally insufficient as stated by Slovic and Lichtenstein (1971) because the different starting points lead to different estimates, which biased toward the initial values. During decision making, individuals tend to rely too heavily on an initial piece of information offered to make subsequent judgments. For example, Donoho (2003) used anchoring and adjustment to explain why sales employees often introduce the premium brand first. Some salesmen might promote the most expensive model rather than a typical model first, such as the premium TV because the salesman is trying to make the customer anchored to the high price, so when they offer a lower price, the customer will estimate that the lower price is a good value one. Individuals are usually conservative, so their final judgment is usually biased towards the initial point of departure. Anchoring heuristic causes investors to underreact to updated information. For stock markets, Montier (2002) found that it has a tendency to under-react to fundamental information, and past prices are likely to act as anchoring for today's prices.

2.3. Rationality Test of Forward Rate as Forecast of Future Spot Rate

The FRUH states that the forward rate should be an unbiased predictor of the future spot exchange rate. The k-period forward exchange rate agreed at time t should be equal to the expectation of future spot rate formed at time t to the forecast of future spot exchange rate at time $t + k$, where k is the length of forward contract.

To test for rationality, the typical analysis involves running regression with the forecast of future spot exchange rate at time $t + k$, S_{t+k}, which is the dependent variable regressed on the forecast available prior to the data release or F_t^k. If the hypothesis for rationality holds, the intercept (α) should be zero and slope (β) should be indifferent from one. Also, the error term should not be auto-correlated.

2.4. Forward Rate Unbiasedness Hypothesis(FRUH)

The theoretical foundation of the FRUH forms in the Uncovered Interest Parity (UIP) condition and Covered Interest Parity (CIP) condition. If UIP holds the expected changes in spot exchange rate for a k-period horizon $(E(_ts_{t+k}) - s_t)$ should be indifference from the difference of the domestic and foreign nominal interest rate $(i_t - i_t^*)$. CIP states that the nominal interest rate differential between two countries $(i_t - i_t^*)$ must not be different to the countries' forward exchange rate premium or discount $(f_t^k - s_t)$.

Using UIP and CIP condition, FRUH can be formulated by simply substituting the expected changes in the spot rate with the ex-post changes in the spot rate plus an error term. FRUH is the joint hypothesis of the conditions of UIP and rational expectations under the assumption of risk neutrality. Therefore, the future change in spot exchange rate for a k-period horizon should be equal to current forward premium. Isard (2008) stated that if the ex-post spot exchange rate appreciation (depreciation) should be equal to the forward exchange rate premium (discount) including a random forecasting error.

To perform empirical tests of the FRUH, most of the research commonly use the "Fama Regression" (Fama, 1984) to test whether the current forward premium $(f_t^k - s_t)$ is an unbiased predictor of the future spot exchange rate return$(s_{t+k} - s_t)$ by regressing current forward premium on the future spot exchange rate return. The main focus of FRUH is not on how accurate of the forward exchange rate forecast, but it is rather on whether the forecast errors are systematically biased.

Algebraically, the regression equation is $\Delta s_{t+1} = \alpha + \beta(fd_t) + \mu_{t+k}$ where Δs_{t+1} is the ex post future percentage depreciation defined as $(s_{t+k} - s_t)$, and fd_t is the forward discount with the maturity that matching to the ex post depreciation defined as $(f_t^k - s_t)$. Also, s_t is equivalent to the log of the spot exchange rate at time t and f_t^k is equivalent to the log of the forward exchange rate at time t.

If the rational expectations are true, the forward exchange rates fully reflect available information about the expectation of investors, so forward rate should be unbiased forecasts of future spot rates, so the null hypothesis of unbiasedness is $\beta = 1$, which imply that there is no systematic time-varying component to the prediction errors: $E\Delta s_t^{t+k} - fd_t = \alpha$ or $\alpha = 0$. With null hypothesis of $\beta = 1$, if the null hypothesis are rejected, it means that FRUH does not hold. The implication as the null hypothesis rejected is that market participants may make systematic, time varying forecast errors, which mean the forward exchange rate does not correctly predict the future spot rate movement on average. This null hypothesis is a joint hypothesis between two distinct conditions, which are rational expectations: $E\Delta s_t^{t+k} = \Delta s_t^e$, where $E\Delta s_t^{t+k}$ is the mathematical expectation (within-sample), and $\Delta s_t^{\ e}$ is the expectation held by investors, and no time-varying risk premium: $rp_t \equiv E\Delta s_t^{t+k} - fd_t - \alpha = 0$. Also, the error term $\{u_{t+k}\}$ is serially uncorrelated.

Numerous empirical researches frequently found slope (β) to be closed to -1 rather than 1 which required by FRUH observed on developed market currencies (Froot and Thaler, 1990); (Gospodinov, 2009). It means that the forward bias puzzle is commonly accepted, which implies that the forward exchange rate is a biased predictor of the future spot rate and high interest rate currencies tend to be appreciate rather than depreciate. Frankel and Rose (1994) argued that slope (β)less than zero may only occur to freely-floating exchange rate system since as they observed on Euro currencies and found that their estimated slope (β) were much closer to zero because the currencies pegged to Euro.

2.5. Possible Explanations of Failure of FRUH

The first theory that have been commonly used to explain the failure of the hypothesis is a risk premium theory. Bernoth et al (2005) found that a time-varying approach leaded to the failure of risk premium as it is negatively correlated with expected spot exchange rate since variance of risk premium is greater than the variance of the expectation errors. Frankel and Poonawala (2010) found that forward rate biasedness is less pronounced for developing market currencies than for developed market currencies as they found the slope coefficient is much close to zero for the developing market currencies, but it is less than zero for developed market currencies. Therefore, they suggested that a time-varying exchange rate risk premium may not be the explanation for bias since to invest in emerging market probably be riskier, but the finding shows that bias in their forward rate is smaller, which might be because high riskiness in emerging market currencies may not entirely embedded in the exchange rate risk premium. Engel (1996) and Burnside et al. (2010) also concluded that time-varying exchange rate risk premium do not explain the forward rate bias.

The second theory is the systematic expectations theory, which explains that market participants make systematic prediction errors. The main idea is that market participants make irrational expectations as they are not risk neutral and rational as assumed. One subcategory under the systematic expectations theory that commonly used to explain the failure is "The Carry Trade Effect", which causes the short-term bias from fundamentals. The recent studies suggested that the momentum inherent in carry trades may lead to worsen biasedness (Spronk et al,2013; Verschoor and Zxinkels, 2013).

The final board theory used to explain the failure is the sample bias or misspecification. For example, sampling error (Breuer and Wohar,1996) , near co-integration (Maynard, 2003), small sample sizes and serial correlation in the forward premium(discount) (Baillie and Bollerslev,2000), nonlinearities in the data (Clarida et al., 2001), and omitted variables (McBrady, 2005; Pippenger, 2011). Also, Barnhart and Szakmary (1991) stated that conflicting results of FRUH may due to the different time period that examined and specific factors during the period. Lothian and Wu (2003) identified that their sample data in 1980s resulted in the negative slope estimates due to the changes of monetary policy in US and UK.

As a time varying risk premium as well as other theories are proved that they do not helpful, the question then becomes how the findings of bias can be interpreted as behavioral factors. In the field of behavioral finance, which recently has not been much studied to explain the failure of FRUH, there are only the research of DeGrauwe et al (2005) and Aggarwal and Zong (2008). DeGrauwe et al stated that behavioral bubble or wave of optimism leads asset prices to be higher than its true value causes biasedness in forward exchange rates as investors stick on the trading strategies in the prior periods that have been profitable. Aggarwal and Zong found that the FRUH of nine industrialized currencies is firmly rejected and market overlook is pessimism in that period of time. Also, forecast revisions in forward rates as forecast of future spot

rates reflect systematic under-react to new information since the slow reaction to new information lead to such bias.

3. HYPOTHESIS DEVELOPMENT

The primary objective of this study is to measure investors' behavioral bias from the movement of currency forward rate. Particularly, this research aims to find out whether risk aversion factor can offer possible explanations to the failure of FRUH since forecast revisions generally reflect changes in fundamental such as economic conditions and interest rates, then there are economically rational as it should be upwards after positive news and downwards after negative news. However, when exchange rates move for reasons unrelated to fundamentals, it implies that the professional forecasters revise their forecast based on noise rather than changes in fundamentals, where noise is generated by psychological factors. This research uses risk aversion factor as the representative for noise that might lead to inaccurate forecast values of future spot exchange rates of professional forecasters since people value gains and loss differently and feel that loss have emotional impacts than the similar amount of gain. . This research firstly predicts that after controlling for risk aversion factor, forecast errors are expected to drop since risk aversion might be the determinant of the failure of FRUH.

Moreover, to measure investors' behavioral bias, this study predicts that the anchoring and adjustment heuristic (under-reaction) will dominate the prediction overtime because in reality, people learn slowly and are usually conservative, so they difficultly shake off their initial value memories; therefore, when information is processed, currency traders are less likely to deviate from the previous anchors to make the forecast. Therefore, the last prediction is that foreign exchange forecasters will place more weight on the anchoring of series of realized spot rate over time rather than the current forward rate because most people tend to stick to their pasts when making decisions.

Hypothesis 1: After controlling for risk-aversion, the forecast errors will be decline.

Hypothesis 2: The anchoring heuristic (under-reaction) will dominate the prediction overtime.

Hypothesis 3: Forecasters place more weight on the anchor of series of realized spot rate rather than the current forecast of future spot rate.

4. DATA AND DESCRIPTIVE STATISTIC

This research uses the data of the aggregate value of put/call open interests on currency future options on each currency pair listed in the Chicago Mercantile Exchange (CME Index) for the eight major currencies, which are available dating back to June 13, 2006 till 2014 at weekly frequency. Since the research of Cochrane (2001) identified risk aversion as a concept in asset pricing model, which does not frequently change over day-to-day due to the fact that it reflects preference. It changes over the horizon that the excess returns are predicted. Therefore, this research studies in weekly frequency.

Options on futures use the basic concepts such as delta, time value and strike price similar to options, except for different in each product specifications such as price specification (e.g. A 1$ change in an option is equivalent to $1, but with a $1 change in futures contract is worth $250.). It is the options that are traded on the underlying futures contracts, so future index, volatility and time-value decay are the key factors influencing priced of the options. The purchaser of a futures option contract has the right but not obligation to a particular futures position at a specified price or strike price at any time before the option expires. When a futures option is exercised, it is opened at the predetermined strike price in the both account of buyer and seller. Future options generally expire almost the end of the month before the delivery month of the underlying future contract. The following table shows that buyer positions are equivalent to long- call and short- put open interest, while seller positions are converted from short- call and long- put open interest.

Futures Positions Assumed Upon Option Exercise

	Buyer Position- Open Interest	**Seller Position- Open Interest**
Call Option	Long Futures Position	Short Futures Position
Put Option	Short Futures Position	Long Futures Position

The data and detail can be found on U.S. Commodity Futures Trading Commission or the CFTC website, which is an independent agency of the US government created in 1974 aiming to regulate futures and option markets. The CFTC establishes the Commitments of Traders (COT) reports which provide detail legacy reports of open interest in weekly frequency on every Tuesday for the whole market and the concentration of positions held by the largest four types of reportable traders: dealer intermediary, asset manager, leverage fund and others reportable, who generally fill a statement with the commission on CFTC Form 40 defined as following:

(1) Dealer Intermediary

Dealer intermediary includes large banks both US and non-US banks and dealers in securities, SWAPS and other derivatives. Those are sell- side participants, who receive commissions on selling financial products. Their duty is to accommodate clients.

(2) Asset Manager

Asset manager consists pension funds, endowment funds, insurance companies, mutual funds and portfolio/investment managers whose clients are mainly institutional investors.

(3) Leverage Funds

Leverage funds are generally hedge funds and money managers. These types of traders may trade on behalf of individual investors since their duty is to help one-on-one with clients after their investments such as gathering information and market research to provide to clients and suggests possible way for them to make the investment decisions and to reach their financial goals. However, the last decision depends on the client himself. Therefore, this type of traders is considered to be the representative of individual investors.

(4) Other Reportable

This type of traders are not placed into any one of the prior three categories. The traders in this category generally use markets to hedge for business risk, which including of corporate treasuries, central banks, smaller banks, mortgage originators and credit unions.

Asset manager, leverage funds and other reportable are considered to be buy-side participants as they are clients of the sell-side participants. They use the markets to invest, hedge, manage risk as well as to speculate.

As only the data of the aggregate value of put/call open interests are available to just only eight major currencies, which are Australian Dollar (AUD), Canadian Dollar (CAD), Swiss Franc (CHF), Euro (EUR), British Pound (GBP), Japanese Yen (JPY), New Zealand Dollar (NZD) and Mexican Peso (MXN), this research requires spot and forward exchange rates are quoted against US dollar at weekly frequency for just these eight major currencies, which can be sourced from Bloomberg Database. For forward rates, 3-month, 6-month, 12-month and 2-year forward rates are required.

5. METHODOLOGY AND RESULTS

2.1. Testing for Behavioral Bias

This research focuses on the relationship between forecast errors and forecast revisions on a particular period, and the forward rate is assumed to be the forecast of future spot rate. The regression analysis uses the following models:

$$FE_t = \alpha + \beta(FR_t) + \mu_t \quad (1)$$

This is the test for weak-form market efficiency which assumes the market is efficient and the forecast of foreign exchange rate is based on the past exchange rate.The dependent variable(FE_t) is regressed on the independent variable (FR_t). Since the dependent variables are expected to suffer from autocorrelation or heteroscedasticity due to the overlapping of value, OLS with Newey-West HAC standard errors are regressed for all time horizons: 6-Month, 12-Month and 2-Year with the appropriate number of lags to control for autocorrelation.

Measurement of Forecast Errors(FE_t): In order to forecast exchange rates, this research capture their performance overtime to determine whether the forecasting procedure is satisfying by investigating the pattern of forecast errors, which is defined as the difference between the forward rate of period $t + k$ formed at time t and the future spot rate realized value at time $t + k$ as a percentage of the realized value of future spot rate:$\frac{(F_t^{t+k} - S_{t+k})}{S_{t+k}}$. The forecast errors for a particular currency depends on the forecast horizons, which are classified into three horizons: Short-term horizon ($6 - Month$), Medium-term horizon ($12 - Month$)and Long-term horizon ($2 - Year$) .

Measurement of Forecast Revisions(FR_t): This research assumes that markets continuously revise their expectations with new information. Amir and Ganzach (1998) state that analysts usually base their forecasts on the previous information set and combined with new information to predict future company earnings, which consistent to the statement of Kozlova (2013) that economists and market participants revise their forecasting strategies as the new information becomes available and such revisions may incorporated changes in a country's institution, political, policy and economic situations as well as shocks to technology. Forecastrevisions refer to the revisions after an original forecast for future spot exchange rate, which is defined as the difference between the forward rate of period$t + k$formed at time $t$and the previous forward rate of period$t + k$formed at time $t - k$ as a percentage of the previous forward rate of period$t + k$formed at time $t - k$:$\frac{(F_t^{t+k} - F_{t-k}^{t+k})}{F_{t-k}^{t+k}}$. Forecast errors are correspond to the forecast revisions. It is the process reflected in how the forward exchange rate changes as a forecast of a future spot rate. For example, the different between 3- Month and 6-Month forward rate as forecast of the same future spot rate.

The intercept (**α**) is a measure of traders' degree of optimism or pessimism. If it is positive, it means the forecast future spot exchange rates go above the realized value of future spot exchange rate implying that traders are over-optimistic. However, if it is negative, it means that traders are pessimistic. The slope (**β**) is a measure of foreign exchange traders' propensity to over- or under-reaction. A positive sign of **β** implies overreaction because traders revise upwards their forecast revisions, while a negative **β** indicates under-reaction since traders revise downward their forecast revisions. If the coefficients of both **α** and **β** are zero, it means that analysts forecast of future spot exchange rates are not behavioral bias or forward rate unbiasedness hypothesis holds.

The result of table III shows that the intercept (**α**) of overall tested currencies are statistically negative in every horizons. The examined horizons are 6-month horizon(Panel A), 12-month horizon (Panel B) and 2-year horizon (Panel C). The regression results show that the rationality hypothesis is firmly rejected and revisions in forward rates as forecasts of future spot rates during the examined period indicates the trend of pessimist market as expected because it was the period of the subprime mortgage crisis and economic recovery periods. Investors would withdraw their money from risky assets. Exchange rate is the most liquid asset of all, so it is normally very sensitive during the crisis.

The estimated coefficient of FR_tor the revisions in the forward rates forecast of the future spot exchange rate for overall currencies for 12-month (medium-term) and 2- year (long-term) horizons are statistically significantly positive. The positive slope coefficients indicates that the changes in forward rates excessively reflect the expected changed as they overreact to information. For 6-month horizon (short-term), the statistically significantly negative coefficient for all currency pairs imply that the changes in forward rates does not reflect the expected changed in the expected changed as they underreact to information.

Moreover, the explanatory power or $R^2$are generally the highest at 2-year horizons, but they are almost close to zero at 6- month horizon for every currencies. This evidence clearly shows the long horizon behavioral bias, and the FRUH almost hold at the short horizon for currency pairs, which is consistent to the fact that at short horizon the FRUH did hold, and the longer the horizon, the larger forecast errors as it is more difficult to

predict because there is more time for economic and political conditions to change which the forecast of future spot exchange rate to stay farther from the realized value of future spot rate.

Overall, even though high trading volume in currency market, systematic deviation from rationality also happens in this market. These preliminary results indicate that overall traders in foreign exchange markets tend to be pessimistic in that period of time. The main conceptual contribution is to show that when there is overreaction in the long -and medium- horizons, there must eventually be under-reaction in the shorter horizon, which conform to the evidence for equity market.

2.2. Behavioral Bias and Risk Aversion Factor

Since risk aversion might be the determinant of the failure of FRUH in foreign exchange market, this research uses Put-Call ratio (PCR) as the proxy for itto capture noise and to measure the sentiment of investors.Koutsikos (2012) compared the performance between Put-Call ratio (PCR) and Chicago Board Options Exchange market volatility index (VIX), which is frequently used as a quick proxy for risk aversion. For the asset class of currencies, he found that Put-Call ratio (PCR) from options is the most suitable as an explanatory variable. The reason to trade call and put options is to provide risk manager the capacities for controlling risks in foreign exchange exposure.

PCR is qualify as a market sentiment indicator, which is the total amount of open interest in puts divided by the amount of open interest in calls. Open interest is the total of all future options contracts entered into but not yet offset by a transaction, which are traded for all currently listed contracts in a series. It is a contrarian indicator. The more open interest in puts means the market sentiment is bearish because put options can be used to protect against the currency declines. Thus, when the ratio exhibits high values, the risk averse is increasing. On the other hands, if more of open interest in calls means the market sentiment is bullish as buying call options is a way to protect against increases in currency value. Therefore, when the ratio shows low value, the risk aversion is decreasing. As the ratio of one indicates normal market condition, the ratio over one indicates a bearish market and the ratio under one is the indicative of a bullish market. Spot options trades do not generally authorize the tracking volume of open interest as they are traded in the OTC market, but currency futures options is trading on the exchange and such open interest volumes of exchange traded derivative is transparent. With futures, the value of all open interests for both call and put options are on a single futures contract. Even the underlying of a futures option is the futures contract, not the commodity, the futures price closely tracks the commodity price.

Risk aversion is controlled for every maturities to explain whether noise plays an important role in explaining the failure of FRUH. Specifically, this research observes whether the forecast errors and R^2 decrease as expected.If R^2 increases after controlling for risk aversions factor, then it could be implied that risk aversions factor does not involve to the failure of FRUH. The dependent variable(FE_t) is regressed on the independent variable (FR_t) with PCR_Market or risk aversion of market as the control variable. The model is constructed as following:**:**

$$FE_t = \alpha + \beta(FR_t) + \gamma \ (PCR\_Market) + \mu_t \quad (2)$$

The result is contradict to the statement of Figlewski (1978a) that the more risk averse the traders are, the more homogeneous their expectation and information, the more efficient we expect the market would be. As after controlling for risk aversion factor, the market deviates relatively further from efficiency. The result supports that market will never be fully efficient due to information cost. This implies that different types of investors are provided by different level of information. Therefore, the market will have heterogeneous expectations and information and these lead to the diversification in price expectations among market participants.

Table IV shows that the intercepts (**α**) of tested currencies are still generally statistically significantly negative, which reflects systematic pessimism of the market trend. The results are not as expected since after controlling for risk averse factor, FE_t do not decline and R^2 increase more than double, but the explanatory power of model is still low at shorter horizons.

According to the results, rational expectation is still clearly rejected and risk aversion factor does not play a role to the failure of FRUH. The longer the maturities, the more behavioral bias occurs. The estimated coefficients of FR_t are still overreact in the 12-month (medium-tern) and 2-year (long-term) horizons and underreact in the 3-month horizon (short-term) as the previous results. Generally, there is overreaction in the long -and medium- horizons and gradually be under-reaction in the shorter horizon. The results are identical for all currency pairs, except for Japanese Yen (JPY). JPY also overreacts in the short-maturity due to risk averse culture as most people have no tolerance for risk. Japanese people tend to focus more on potential problems rather than opportunity. Brinton, co-author of "A Japan that Turns Its Back on Risk" said that the stock market is not the only place that the Japanese people do not like to take chances. Therefore, during financial crisis and pessimist market, when Japanese people receive any information, they tend to be risk averse and overestimate future spot prices.

The market risk aversion factor is universally positive at all maturities for each currency pairs, except for Mexican Peso (MXN). The positive relationship between forecast errors and markets' PCR means that when risk aversion rises, the market will constantly overestimate future spot prices; in other words, market sentiment during the observing periods is bearish and risk averse. In contrast, MXN has negative relationship between forecast errors and the risk aversion factor for all maturities, which imply that when risk aversion rises, the market will underestimate future spot prices; in other words, sentiment of the market for this currency is bullish and not risk averse. The reasons are that MXN is the representative currency for emerging market currencies and one of the most liquid of emerging market currencies during the financial crisis .It is one of the most traded of emerging market currencies during the financial crisis since investors use MXN as a general proxy for risk and they will place a hedge for their portfolio via the peso. As shown, each currency stylized facts causes some currencies' results to be different.

2.3. The Measurement of Investors' Behavioral Bias

This research also aims to capture the reaction of four largest types of traders in the market, which are dealer intermediary, asset manager, leverage fund and others reportable.

The dependent variable(FE_t) is regressed on the independent variable (FR_t) with PCR of each types of traders as the controlled variables for every maturities to better understand their behavior. The model is built as following:

$$FE_t = \alpha + \beta (FR_t) + \gamma_1(PCR\_Dealer) + \gamma_2(PCR\_AssetManager) + \gamma_3(PCR\_LeverageFund) + \gamma_4(PCR\_Others) + \mu_t \quad (3)$$

Overall, the evidence from Table V confirms with the results of Table IV because the estimated coefficients are generally statistically positive and significant in medium-term and long-term, and statistically significantly negative in the short-term for whole currencies, again except for Japanese Yen (JPY) whose currency overreacts to all maturities. Also, R^2 are higher in the longer horizons. The only difference is the intercept of overall tested currencies switches from statistically negative to statistically positive for every horizons, again except for JPY. The overall market mood changes since these traders play a significant role in the market.Their behaviors reflects the mood of the market.

The negative relationship of forecast errors and PCR of leverage funds indicates that hedge funds and money managers, who trade on behalf individual investors are not risk averse. Individual investors are considered to have behavioral-based trading or contrarian investing style, which is based on common sense and value investing principles. Their investment style goes against the trend of the market by buying and selling in contrast to the trend at that time. This type of investors is looking for the undervalued but healthy assets that everyone else does not want and hope them to turn around. Contrarian investors help to minimize the downside risk of price and reduce the effect of large institutional investors as well as small institutional investors. This result is consistent to many other papers observed in various equity market which agree that individual investors tend to be contrarian in their investment decisions.

There are the positive relationship of forecast errors and PCR of asset managers and other reportable, which means they are generally risk averse. These two types of traders are institutional investors, who tend to have more information as they are provided with professional analysis, recommendations and exposed to variety

of financial instruments that are not possible for individual investors. They tend to perform more rational decision making than individual investors since they are financially sophisticated and are much larger than individual investors. Asset managers and other reportable are considered to be information based trading. For example, mutual fund managers are belonged to asset manager type of traders. Their duties are to offer investors the advantages of portfolio diversification and professional management at low cost to maximize returns on their financial resources, which are typically their saving, so mutual funds managers must provide their clients as ideal way to profit from investment and avoid the risk to loss.

Dealer intermediary represents the sell-side participants, who accommodate buy-side participants. The positive relationship between forecast errors and PCR of dealer intermediary implies that the general investors are risk averse during the examined period, except for British Pound (GBP) due to their risk seeking in nature of British people. As shown, each type of traders has its own trading strategies depending on information they have received and their rational decision making levels. These findings provide evidence that individual investors are more overconfident than institutional investors during market losses.

Overall, to measure investors' behavioral biases, this study focuses on two common tendencies of human behavior, which are the representative and anchoring heuristic to explain the patterns, which is sensible in the term of time series. The over-reaction from price swing generally occurs in the medium and long horizons and it is not long lasting. Investors react unreasonably to new information, which is the simple nature of arbitrage strategies, this causes the asset's price to change dramatically, so the price will not fully reflect the true value of assets. Traders do not know whether or not the price have reached the equilibrium price; therefore, they continue to trade even after the equilibrium has been reached as they only trade on the recent price changes. This result is consistent to the results of many empirical researchers who found that forecasts by individuals systematically bias toward arbitrary reference points or anchoring heuristic which serves as based for the prediction. As for forecasting future spot exchange rates, forecasters use historical exchange rate to predict future values. The result supports the weak- form tests of technical analysis model. Even though forecast errors are biased in a predictable way, forecast errors are large because traders generally wait for the release of news to enter into trading positions and takes benefit from the momentum to be generated when the news release. However, somehow the expectations of news have already been priced in and the market will only support the expectations of news with the actual data after the release of the news, and this caused overreaction in prices. Also, rising in price after the release of positive news are just temporary and in some cases the price reverses within minutes. News traders are usually affected by this type of behavioral bias. To overcome this type of bias, investors should have a long term view of the market by conducting an analysis of the market and consider the possible effects of the upcoming events with valuating the priced events.

Overtime, there must eventually be under-reaction in the shorter horizon because people bias toward the belief that this asset prices are still over-value, so they let the price to adjust to its true value in order to buy optimal price of asset. Therefore, as it is usually hard for people to shake off their pervasive biases when face with new information and new information diffuses slowly across the people, this causes under-reaction in the short horizon. The under-reaction means that momentum traders will be profit from chasing trade. Bias toward anchoring leads to underweight new information as they might be too slow in cooperating new information and bias their forecasts toward different period of the arbitrary point of departure that depend on which information periods that investors treat as starting points for the prediction and base their judgment to. Anchoring refers to the misuse of information by traders. Traders attach their thoughts and decision making criteria toward a particular reference point even though it may or may not have logical relevance to the decision at hand. In foreign exchange trading, traders often based their trading decision on historical data which may or may not be irrelevant statistics, charts or figures. For example, a traders may buy a currency after it has dropped in a very short period of time. Traders are anchoring on the recent high and believe that the decline in price is temporary and this is an opportunity to buy. This term of sell-high and buy-low are generally used by traders who anchor toward previous high or low prices. This may be true if the decline in price was caused by market volatility; however, in the case of the fundamentals of the currency pair have changed then this may result in further losses for the trader. Therefore, the trader should think critically in making investment decisions by incorporating both fundamental and technical analysis.

2.4. Testing for Anchoring Bias

    This paper tests for a specific behavioral bias- the anchoring bias on whether unbiasedness occur from anchoring or toward the average prior series of realized spot rate over the previous months. Since many empirical researchers found that anchoring and adjustment serves as the prediction based. Czachzkes and Ganzach (1996) found that previous prices serves as based for the predicted share price. This research adapts the methodology from Campbell and Sharpe (2007) who construct the model that can measure whether the forecast of the market price are based more toward which components between the current forecast and the average release value over the previous months. Frankel and Froot (1987) found evidence that professional exchange rate forecasts are anchoring toward the current level of exchange rates and are possibly anchoring the forecast of future spot exchange rates toward a long-run average value of the releases. Therefore, to formally form the model according to the idea of Frankel and Froot.

$$F_t^{t+k} = \lambda E[S_{t+k}] + (1 - \lambda)A_h \quad (4)$$

    Where F_t^{t+k} is the forecast of future spot exchange rate, $E[S_{t+k}]$ is the expected future spot exchange rate and A_h is average prior series of realized spot rate over the previous h months. This research focus on the anchoring periods of the long run average daily realized spot rates over the prior twelve months $(h = 12)$. Then, substituting the model of forecast error: $FE_t = F_t^{t+k} - E[S_{t+k}]$ into equation (4) and rearranging the model, which is shown in Appendix A.

    This research tests for anchoring bias in the forecast of future spot rate by running regressions with Forecast error (FE_t) as the dependent variable, which is regressed with OLS Newey – West HAC standard errors on the difference between the current forecast or the forward rate (F_t^{t+k}) and the anchor (A_{12}) as the independent variables with the appropriate number of lags to control for autocorrelation. The regression equation is as following:

$$|FE_t| \equiv |F_t^{t+k} - E[S_{t+k}]| = \gamma_0 + \gamma_1 |F_t^{t+k} - A_{12}| + \varepsilon_t \quad (5)$$

Where $\gamma_1 = \left|-\frac{(1-\lambda)}{\lambda}\right| = \frac{(1-\lambda)}{\lambda}; \lambda \in (0, 1).$

    This research firstly assumes that the forecaster weights equally between the current forecast

of future spot exchange rate($E[S_{t+k}]$) and the average prior series of realized spot rate over the previous h months(A_h); therefore, λ is equal to $\frac{1}{2}$. Here, the research hypothesis is that $H_0: \gamma_1 = 1$ implies that two components are equally weighted, while $H_1: \gamma_1 \neq 1$ means that $E[S_{t+k}]$ and A_h components are not equally weighted. A zero value of λ would constitute evidence that the forecast errors are biased toward the anchoring 100 percent and γ_1 would be infinity. In contrast, if λ equals to one, it constitutes the evidence that the forecast errors are biased in a predictable way toward the expected future spot exchange rateor $E[S_{t+k}]$ at 100 percent and γ_1 would be zero.

    The empirical results of this model rejects the hypothesis that the forecast and the anchoring are equally weighted. The estimates of γ_1 are all statistically significantly positive and less than one, which means that the errors in the forecast of future spot rate are biased toward the current expected spot rate and that form of bias is consistent with anchoring. What is more between the expected value and the anchor? In terms of the structure in the Equation (4), γ_1 can be transform into λ and $(1 - \lambda)$ by $(1 - \lambda) = \frac{\gamma_1}{1+\gamma_1}$.For example, if the estimated coefficient (γ_1) of 0.38 for a particular currency pair implies forecasters place approximately 27.5 percent of The empirical results show that market participants do not take the current forecast of future spot exchange rate at face value since they also take the anchoring into account. Even though the anchoring has little effect when compared to the current expected future spot rate, it can also explain some errors in the forecast. According to the empirical results, the longer horizons, the greater the coefficients indicates that the larger the forecast errors. The greater estimated coefficients also mean that the more anchoring approaches the future spot

exchange rate. Therefore, it implies that consensus forecasts are systematically partly biased toward the value of previous months' realized spot rates, and the more sticking to the past, the greater the forecast errors since anchoring refers to the misuse of information. Consensus forecasts bias toward a particular reference point even though it may or may not have logical relevance to the current time. The evidence in favor of anchoring is consistent across each of the currency pairs that this research examines. To conclude, unbiasedness in the forecast of future spot exchange rate does not occurs from the anchoring.

6. CONCLUSION

This research investigates how behavioral finance can explain the failure of forward rate unbiasedness hypothesis (FRUH) by using the combined influence of two main psychological factors as the explanations: representativeness (over-reaction) and anchoring heuristic (under-reaction) to explain bias in the trading activity observing on eight major currencies: Australian Dollar (AUD), Canadian Dollar (CAD), Swiss Franc (CHF), Euro (EUR), British Pound (GBP), Japanese Yen (JPY), New Zealand Dollar (NZD) and Mexican Peso (MXN). Also, this research examines whether risk aversion factor is the determinant of the failure of FRUH and investigates behavior of investors in the trading of foreign exchange rates at how they behave when the risk level of the market changes by using risk aversions factor as the measurement variable. Apart from this, this research studies the unbiasedness that may occur from anchoring. The result shows that the over-reaction and under-reaction can explain some errors in the forecast as investors are systematic under-reaction at short-horizon and over-reaction at medium- and long- horizons for every currency pairs. For a specific anchoring bias testing, this research finds that anchoring can also explain some errors in the forecast since the more of anchoring components when compared to the current forecast of future spot rate, the greater the forecast errors. Therefore, unbiasedness in the forecast of future spot exchange rate does not occurs from the anchoring. Moreover, the result indicates that general investors tend to be risk averse during the examined period. Specifically, individual investors are risk seeking, while institutional investors tend to be risk averse.

This research focuses on examining for a specific behavioral bias- the anchoring, so in reality, market may not consider only these two components in the forecast of future spot exchange rate, this research suggests that there may be other complex factors to the micro level that can affect the forecast of future spot exchange rate i.e. $F_t^{t+k} = \lambda \mathrm{E}[S_{t+k}] + \Phi A_h + (1 - \lambda - \Phi)X$.

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Tourist Motivation Visiting Bangnamphueng Floating Market And Their Satisfaction Based On The Destination's Cultural And Heritage-Based Attributes

Naphinya Rassamitat

Abstract

This research diagnosed the demographic characteristics of tourists and motivations and studied the satisfaction of tourists who traveled to cultural destinations. The hypotheses evaluated the overall satisfaction of tourist attractions also this is one of the functions that affects tourists' motivation. Bangnamphueng Floating Market is part of the cultural and heritage destinations. Also, it used this area for this research, meaning the data was collected from tourists who visited the Bangnamphueng Floating Market during January-April 2015. Therefore, theBangnamphuengFloating Market area is one of the best urban areas that have good ozone. According to Time magazine one of the best and famous weekly news and magazine in America named that this area is the "Best Urban Oasis of Asia" in 2006 and also is the Green Space area of Thailand. Hence, the research was an analysis by using instrument analysis of Pearson's correlation coefficients and independent-samples T-tests according to the sequence of the objectives in this study. Although the results came up with the expose of the demographic characteristics, tourists' motivation and cultural/heritage attributes hence related with the tourists' overall satisfaction. At last, the key for indicators is the tourists'satisfaction, which comes from the individual satisfaction of tourists in tourists' motivation and cultural heritage attributes.

1. Introduction

Tourist satisfaction is the main capability to support sustainable tourism development (Duad and Rahman, 2011; Seyanont, 2009; Rasovic, 2013). For economic perspectives, the satisfaction can be decided by the success and existence of the tourism business (Rasovic, 2013; Gursoy, McCleary, and Lepsito, 2007). The long-term ability to sustain a high level of tourist satisfaction can indicate the sustainability of tourism in a place. Tourist satisfaction is a significant component to measure sustainable tourism development. The tourist satisfaction indicates the capability of tourism management in terms of services and motivation for visiting. The level of tourist satisfaction is the main element of sustainable development, which indicates the increase investment in the competitive tourist market. As a result, this study aimed at the capacity of tourist satisfaction on sustainable tourism development situations in the study site, which is the floating market tourism and we will study about the tourist satisfaction of community-based tourism (Rasovic, 2013).

From providing research that shows that the communities will have the internal complicated problems and jealousy in the community development processes as a result of the scholars having suspected the CBT (Simpson, 2008). In addition, the local society of communities will have a double standard so it can affect the decision-making system. For example, in the standard of wealthy and local elite residents will have a bias towards wealthy residents (Blackstock, 2005). Moreover, there is no assurance about the tourism development impartiality and benefits of local people in the community (Ayres, 2002). Although, the local communities or politicians are worried about losing control of people in the community so it will affect their making decision. The important problems of developing countries are government corruption as a result it is impossible for local participation (Kontogeorgopoulos, 2005).

Backgroundof Bangnamphueng Floating Market location Bang Kachao Island in Thailand. Bang Kachao is an island although an artificial one.The "Bang Kachao" areas having 11,819-rai jungle lands and the

aerial photograph of that area is like a "Lung" so it is named "The Lung Of Bangkok" since 1977, the Ministry of Natural Resources and Environment of Thailand have authority of its supervision. "Bang Kachao" island has six communities and one of them is "Bangnamphung" community. Bangnamphueng community was managed by the Bangnamphueng Sub-district Administrative Organization (SAO).Bangnamphuengcommunity has11 villages, which the study revealed in BangnamphuengFloating Market.So, Mr. Samnao is the Chief Executive of Bangnamphueng SAO who established the floating market in 2004. He encouraged people in the village to help themselves by following a "Sufficiency Economy". The Sufficiency Economy is a philosophy by His Majesty King BhumibolAdulyadej of Thailand.

1.1 Purposes of Study

　　　　Satisfaction is considered important to competitive business in the tourism industry. Measuring tourist
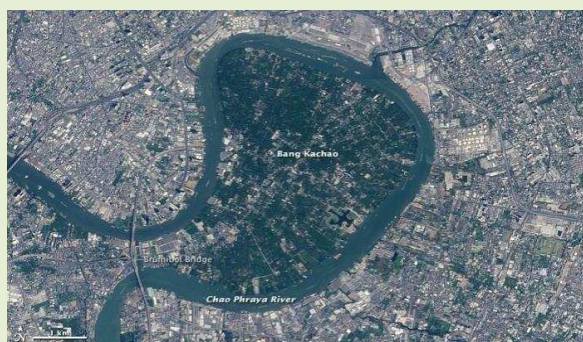
Fig. 1. (a) Location Bang Kachao Island in Thailand by Landsat Image Gallery.

(b) BangnamphuengFloating Market by Asia web direct.

satisfaction is significant to successful in destination marketing because it is directly linked to consumption of products and services, destination choices, and repeats business. The satisfaction is essential for marketing the products so the marketers can improve the quality of products and easily answer the questions of customers by using the benefit of visitor satisfaction. Also, we can apply this to be used with the tourists that came to travel in CBT (Kozak and Rimmington, 2000; Wong and Law, 2003). As an awareness of public participation, the highlights of the community's awareness to encouragement and change the learning processes in understanding their situations is displayed (Reid, 2003). The objectives of this study are:

　　　　- To identify and study the tourist's overall satisfaction that comes to Bangnamphueng Floating Market and to increase the attractiveness of the tourists who travel to the floating market,

　　　　- To identify the tourist satisfaction towards the Bangnamphueng Floating Market, and

　　　　- To study the overall satisfaction of tourists who visited Bangnamphueng Floating Market and moreover to examine the relationship between tourists' motivation, the heritage attributes and the destinations culture.

2. Literature Review

2.1 Tourists' Demographic Characteristics

　　　　The characteristics of the demographics of tourists are the main factors to analyze the overall tourists' satisfaction and tourists' motivation with their heritage and cultural destinations. The cultural and heritage tourism mentions on developing and managing the cultural and heritage tourism and also identifying the characteristics of tourists who are attracted to cultural and heritage destinations. For instance, from the provided research there is the common method of cultural and heritage tourists. The analyzing has shown a lot of factors such as income, age, gender, and education level (Silberberg, 1995).

2.2Tourists' Satisfaction

Kozak and Rimmingt on have informed the destination attributes are based on the impact of overall satisfaction levels. His theory was supported and also stated that it is a main point of tourists' satisfaction so they will see that the tourists' travel experiences have the effect on the attribute of the destination as the end will come up with satisfaction or dissatisfaction of each trait (Pizam, Neumann, and Reichel, 1978).

2.3Culture and Heritage Attributes

The importance issues of the cultural and heritage destination attributes that base on the analyses of importance-performance define tourist's satisfaction. Also, study the destination's attractiveness attributes of tourism industry level that attributes for example infrastructure and human resources that also encourage, to the tourists overall satisfaction of a destination (Crouch and Ritchie, 1999).

2.4 Tourists' Motivation

The tourist motivation is the effect of internal driving that needs to escape from the common environment. Therefore, to find the good decision it should show the opportunities for a vernation. Hence, the push-pull travel motivation theory also developed the formulas to study about the form to check the tourists' motivations and influence travel destination choices (Dann, 1997).

3. Conceptual Framework

From the previous studies the attributes of importance-performance (IPA) such as in expectation-disconfirmation theory (customer satisfaction) and push-pull travel motivation theory were key in order to analyze these theories. Hence, the independent variables are tourists' motivation and cultural and heritage attributes then the dependent variable, which is Tourists' satisfaction Kanoknon, (2009). Therefore, the name of the research is "Tourist Motivation To Use Homestays In Thailand And Their Satisfaction Based On The Destination's Cultural And Heritage-Based Attributes" was adapted to be used withBangnamphuengFloating Market and also look at the difference between the gender and satisfaction. In conclusion, the independent variables are Tourists' motivation and cultural and heritage attributes then the dependent variable is tourists' satisfaction.
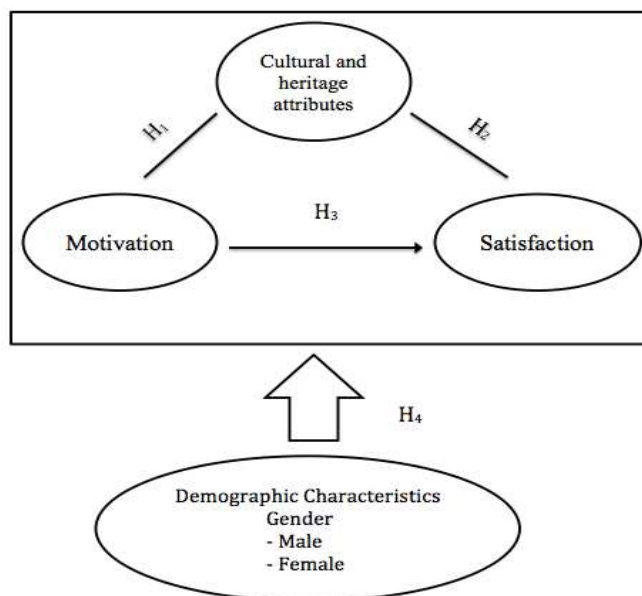
Fig. 2. Model of study on Tourist Motivation Visiting Bangnamphueng Floating Market And Their Satisfaction Based On The Destination's Cultural And Heritage-Based Attributes. Adapted From: (Kanoknon, 2009).

Moreover, due to the fact that this research investigated the Tourist Motivation Visiting BangnamphuengFloating Market And Their Satisfaction Based On The Destination's Cultural And Heritage-Based Attributes, consequently the researcher hypothesized that:

H1: There will be a relationship between the Cultural and heritage attributes of Bangnamphueng Floating Market and the motivation of tourists who visited floating market.

H2: There will be a relationship between the Cultural and heritage attributes of Bangnamphueng Floating Market and the overall satisfactions of tourists who visited floating market.

H3: There will be a relationship between the tourists' motivation and overall satisfaction of tourists who visitedBangnamphuengFloating Market.

H4: There will be a difference between the gender in overall satisfaction, motivation and Cultural and heritage attributes of the tourist who travel to Bangnamphuengfloating market.

4. Research Methodology

This chapter was declarative to present about the research's methodology, which was from 240 sample correspondents. As well, the researcher divided this study into 3 sections. In the first section independent variables are Tourists' motivation and cultural and heritage attributes, then studied the dependent variable which is Tourists' satisfaction by analyzing and using a 5-point Likert scale ranging from 1 (Strongly Unimportant) to 5 (Strongly Important). Internal and external factors questions were adopted from (Kanoknon, 2009).

Also, it will present about the difference between the gender in overall satisfaction, motivation and Cultural and heritage attributes of the tourist who travel to floating market. This study can apply the relational research design and predicting effects have cultural and heritage attributes and tourist's motivation on tourists' satisfaction. Also including, to study the relationship between cultural and heritage attributes, tourist's motivation and tourists' overall satisfaction.

4.1 Reliability Test

Cronbach's alpha is a reliability instrument to specify as establish the reliability to this research and if the survey reliability coefficient was verified. The technique to do a quantitative analysis on reliability of internal consistency is Cronbach's alpha (Peter, 1979). After all variables have gone through Cronbach's Alpha, an acceptable or recommended value is 0.6. Although this research represents an overall measure of the independent variables and dependent variables, which are Tourists' motivation, Cultural and Heritage Attributes then the dependent variable is Tourists' satisfaction. Also, Kanoknon (2009) used Cronbach alpha to test the technique also.

Table 1. Results from reliability pilot test by 30 correspondents

Scale	No. Of Items	Cronbach's Alpha
Tourists' motivation	9	0.741
Cultural and Heritage Attributes in Tourists' motivation	5	0.699
Tourists' satisfaction	8	0.843
Cultural and Heritage Attributes in Tourists' satisfaction	9	0.748

5. Research Findings

5.1 Demographic Analysis

The data from 240 correspondents showed the level of Tourist Motivation Visiting Bangnamphueng Floating Market And Their Satisfaction Based On The Destination's Cultural And Heritage-Based Attributes as shown in the following:

Table 2. Levels of Demographic of respondents

Item	Frequency	Valid Percentage
Gender		
Male	120	50
Female	120	50
Total	**240**	**100.00**
Age		
Under 25 -25	97	40.4
26 – 40	106	44.2
41 – 55	28	11.7
56 – Older	9	3.8
Total	**240**	**100.00**
Education level		
Junior High School	10	4.2
Senior High School/Vocational Certification	22	9.2
Associates Degree/High Vocational Certification	15	6.3
Bachelor's degree	149	62.1
Master's degree	42	17.5
Others	2	0.8
Total	**240**	**100.00**
Income level		
Below 15,000 Baht	65	27.1
15,000 – 30,000 Baht	104	43.3
30,001 – 50,000 Baht	35	14.6
Over 50,000 Baht	36	15.0
Total	**240**	**100.0**

5.2 Hypothesis testing and analysis

The main objective of this research is to examine and find the difference between the gender in overall satisfaction, motivation and cultural and heritage attributes of the tourists who travel to the floating market by using Sample T-Test to get the evaluation.

Also, the Hypothesis 2, Hypothesis 3 and Hypothesis 4 will use the Pearson's correlation coefficient to find the relationship and effect between the independent variables and the dependent variable.

Table 2. Pearson's correlation: Cultural and heritage attributes – Overall satisfaction and motivation (H1)

		Correlations			
		Overall_M	Overall_CHM	Overall_S	Overall_CHS
Overall_M	Pearson Correlation	1	.590**	.567**	.530**
	Sig. (2-tailed)		.000	.000	.000
	N	240	240	240	240
Overall_CHM	Pearson Correlation	.590**	1	.550**	.637**
	Sig. (2-tailed)	.000		.000	.000
	N	240	240	240	240
Overall_S	Pearson Correlation	.567**	.550**	1	.795**
	Sig. (2-tailed)	.000	.000		.000
	N	240	240	240	240
Overall_CHS	Pearson Correlation	.530**	.637**	.795**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	240	240	240	240

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

Table 3. Pearson's correlation: Correlations between cultural and heritage attributes –overall satisfactions (H2)

		Correlations		
		Overall_CHM	Overall_CHS	Overall_S
Overall_CHM	Pearson Correlation	1	.637**	.550**
	Sig. (2-tailed)		.000	.000
	N	240	240	240
Overall_CHS	Pearson Correlation	.637**	1	.795**
	Sig. (2-tailed)	.000		.000
	N	240	240	240
Overall_S	Pearson Correlation	.550**	.795**	1

Sig. (2-tailed)	.000	.000		
N	240	240	240	

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

Group Statistics					
	Sex	N	Mean	Std. Deviation	Std. Error Mean
Overall_S	Male	120	4.1323	.53435	.04878
	Female	120	4.1885	.46630	.04257
Overall_M	Male	120	4.0389	.50161	.04579
	Female	120	4.0074	.47266	.04315
Overall_CHM	Male	120	4.1850	.53525	.04886
	Female	120	4.2433	.47822	.04366
Overall_CHS	Male	120	4.1463	.49690	.04536
	Female	120	4.1796	.42369	.03868

Table 4. Pearson's correlation: Correlations between Tourists' motivation – Tourist's satisfactions (H3)

Correlations		Overall_M	Overall_S
Overall_M	Pearson Correlation	1	.567**
	Sig. (2-tailed)		.000
	N	240	240
Overall_S	Pearson Correlation	.567**	1
	Sig. (2-tailed)	.000	
	N	240	240

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

Table 5. Independent-Samples T-test: Results on t-test between Gender and overall satisfaction, motivation and Cultural and heritage attribute (H4)

To compare the independent t-test analysis was used to know the difference between groups to look at the difference to see if it is statistically significant. So, we will used T-test to resolve the difference between tourists' gender (male and female) and overall satisfaction, motivation and cultural and heritage attributes of the tourists who travel to the floating market to address hypothesis H4. Thus, hypothesis H4 was addressed the summarized T-test results is revealed that there was no significant difference between males (M = 4.03, S = 4.13, CHM = 4.14, CHS = 4.14) and females (M = 4.00, S = 4.18, CHM = 4.24, CHS = 4.17); t (.500) = 238, p = .67.

6. Discussions and Conclusion

H1: There is a relationship between the Cultural and heritage attributes of Bangnamphueng Floating Market and the motivation of tourists who visited floating market.

Independent Sample Test		F	Sig.	T	df	Sig (2 – tailed)	Mean Difference
Overall_S	Equal variances assumed	1.792	.182	-.869	238	.386	-.05625
	Equal variances not assumed			-.869	233.716	.386	-.05625
Overall_M	Equal variances assumed	.406	.524	.500	238	.617	.03148
	Equal variances not assumed			.500	237.164	.617	.03148
Overall_CH M	Equal variances assumed	2.252	.135	.890	238	.374	-.05833
	Equal variances not assumed			.890	235.041	.374	-.05833
Overall_CH S	Equal variances assumed	2.508	.115	.559	238	.577	-.03333
	Equal variances not assumed			.559	232.200	.577	-.03333

H2: There is a relationship between the Cultural and heritage attributes of Bangnamphueng Floating Market and the overall satisfactions of tourists who visited floating market.

H3: There is a relationship between the tourists' motivation and overall satisfaction of tourists who visited Bangnamphueng Floating Market.

H4: There is no difference between the gender in overall satisfaction, motivation and Cultural and heritage attributes of the tourist who travel toBangnamphueng floating market.

Consequently, after testing the hypotheses it was also found that there is a relationship between tourists' motivation, cultural and heritage attributes and tourists' satisfaction. So, thehypothesesH2, H3 and H4 have a correlation between each factor. Hence, the main key for increased tourist satisfaction needs to know their motivation that what is of interest to and attract the tourists. Also, the tourists' motivation and cultural/heritage attributes can predict the overall satisfaction of tourists who visited Bangnamphueng Floating Marke

7. Recommendations

The research will show that the impacts tourists' motivation and cultural heritage attributes at Bangnamphueng Floating Market on the tourists' overall satisfaction. We can diagnose tourists' level of satisfaction by their demographics. If we can develop a plan to attract the tourists we can increase the percentages of travelers. So, if tourists revisit that destination a lot it means that the organization has good plans in their CBT management. Therefore, the community needs to know the tourism marketers to attract the visitors. Also, in terms of tourists' overall satisfaction it can increase when tourists have more intentions to revisit a destination. Tourists' overall satisfaction depends on individual perceptions so the tourism industry needs to solve many types of competitive issues in order to analyze different destinations. At last, if the organization uses the benefit from the main key of satisfaction and motivation they can have the strategy to make the CBT in community stable.

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Appendix A. Scale items for each factor

No.	Variables	Items	Cronbach's Alpha	Number of items
1	Tourist's Motivations	- I prefer various activities. - I want to have fun and enjoyment. - I would rather have a careful and complete planned trip. - I want to have a restful and relaxing trip. - I want my private time. - I want to visit familiar places. - I want to visit friends and relatives. - I want to visit new places. - I want to buy cheap stuff and good quality.	0.741	9
2	Cultural and Heritage Attributes in Tourist's Motivations	- I want to know different cultures/ways of life. - I want to attend cultural events. - I want to seek the beauty of nature. - I want to seek variety of foods. - I expect good service-minded people.	0.699	5
3	Tourists' Satisfaction	- Personal safety and security - Climate conditions - Possibility for shopping - Opportunity for rest - Political and economic status - Cleanliness - Positive feelings regarding Bangnamphung Floating Market - Information from friends and family relative to the travel	0.843	8
4	Cultural and Heritage Attributes in Tourist's Satisfaction	- The destination can be easily reached - Diversity of cultural/historical attractions (Architecture, Tradition and Customs...) - The hospitality of local people and good service. - The offer of local cuisine - Entertainment activities - Offer of cultural and other events - Beauty of the scenery - Distance from home - Advertising	0.748	9

Relationship between strategic sourcing techniques and profitability for competitiveness – a proposed model

Pisoot Thankdenchai

Abstract

The purpose of this study is to propose a comprehensive strategic model to evaluateprofitability. Strategic supply chain management in sourcing concepts and tools are adopted to explore and managethe main profitability drivers (cost, revenue, and margin).A deductive approach is used to identify the variables of theprofitability model. Phase one of this study rely on reviewing prior literature in the field (profitability, strategic purchasing and sourcing, how to develop scale and measuring, addressed with competitiveness) in order to identifythe key profitability drivers that uses in managing profitability (costs, revenue and margin).Phase two ofthe research focuses on testing the developing scales,two instances were illustrated, one was secondary data from UNCTAD, 2011 (Port performance), another one was from twenty quotations by liners and the managers asLogisticians in "International transport service provider" in service sector.

Findingsresulted that for logistics performance not been investigated in previousstudies in International transport service field for logisticians' profitabilities, especially in Thailand.The comprehensive profitability model with variables as cost, revenue andmargin was a better predictor of profitability, togain competitive ability thanother alternative models.Revenue resulted high impacts to margin of freight service to Singapore as illustrated in this study. The choices in using sourcing technique influenced to relationship between profitabilities and competitive level through cost, revenue and margin.As the first study of its kind, this model contributes to the theoretical literature in thefield. It is also a practical contribution in scale developing and evaluation for profitability of the Logistics firm's competitiveness steps forwardto sustainabilityin "International transport service" sector.

Keywords: Competitiveness analysis; Profitability;Strategic assessment; Supply chain sourcing;Sustainability.

1. Introduction

This research focuses on strategicsourcing techniques (SST) in supply chain management (SCM) at a strategic level and their utilization to maximize profitability and competitiveness in logistics and transport servicingsector. Profitability assessment is important, several studies to achieve the organization development to achieve its competitiveness by approaching the different managements and performed approaches. However, overall studies were rare to apply the sourcing decisions with measurable profitabilities policies in transport management related to management'sstrategic measuring tools. The maximization of profitability would be required as a strategic plan. SCM sourcing techniques has changed the way of shifting from "purchase", to "global sourcing" this to "enhance" the efficiency and effectiveness of profitability as well as the model that can improve competitiveness. The main purpose of this study is to develop a strategic comprehensive profitability measuring model for competitiveness assessment. Approaches for competitiveness and effects influencing by selected sources would be explored.

SCM with Strategic Sourcing Techniques were then identified as "SST" that effected to profit for each "profit margin driver" to establish a proposed comprehensive model of strategic sourcing to maximize profitability for competitiveness. The model takes into account key strategic dimensions that affect profitability and uses the most appropriate strategic sourcing techniques to manage profitability.The findings offer both theoretical and practical contributions from a theoretical model development forstrategic sourcing with

profitability measurement in logistics and transport service fields. Primary data was collected frommanagers in Thailand international freight forwarders association (TIFFA), international transport sector for proposed model testing.

The model principles provide a basis for further research in "strategic profitability measurement" and further testing of the proposed profitability model in different industry situations, both industry and service sectors and different countries. Hence, this paper creates a new knowledge related to strategic profitability evaluation which can be further developed both from a conceptual and practical implementation perspective.

2.1. Research context

Traditional management focus is often on a single dimension, such as costs or cost reduction.Many papers discussed about profitability or competitiveness, most of them focus on cost and cost reduction. This is insufficiency to build up firm's effectiveness than efficiency-only focus. (Mohamed andJones,2014; Sigalas, Economou and Georgopoulos, 2013; the World Bank, 2012).

In Thailand, supply chain and logistics performances are all about only cost reduction, performed lead time as main key drivers whichcould not meet competitiveness among the service providers, especially in forwarding business. All freight consolidators were using same sailing schedule from same liner. Hence, lead time performancecaused no any effects as their main key.Such anindicator could be found in several measuring indexes whichare often offeringto the public.Many types of indexes, either key performance index (KPI) or any other performance index. Tools were for activitiesassessmentand mainly focusedonly on few perceives. First, the most popular three main key variables were engaged,among in between either cost reductions, annual revenue with or without deliveryperformance records. Second, the utilizations supportonly amongthe industrial firms, not available for logisticians asa practitioner in service sector. Thirds, tools were usedon narrow perceived purposes.Adopted with difficulties and constrains in assessment,samegiven commentfrom the World Bank'sauthors group: Arvis, Mustra, Ojala, Shepherd, Saslavsky, 2012in material for LPI measurement and its indicators, page 51 addressed one of difficulties to assessed critical elements of good logistics; cannot be assessed using only time and cost information (the World Bank, 2012).

Along the chain, SC members from upstream to downstream consist of many tiers asstakeholders in the chain. Each participant implements logistics performance to yield only for own logistics department. This empirical study empathized for logisticians as a service provider in order to break out all of these constrains, enrich their performed service, profitabilities of logistics performance as a financial term, well scoped for logisticians' studies,and genuine enough ingeneralities forall services sector.Service performances in a way of profitability, competitiveness, and benefit from strategicsourcing were explored. The holistic model illustrated measuring instrument for logisticians' competitivenessin service sector, to balance the lack of literature in sourcing techniques were included.This concernedto comprehensive strategic views in measuring the profitability of a Logistician's context, including the three key profitability drivers (cost, revenue and margin) and managing those using strategic sourcing techniques supports the need for thisindustry.

2.2. Research reviews

A) Roles of logistics providers

An intermediary broker in delivery, shipments dispatch is well defined as a freight handler.A world-wide shipment could be booked for space from carriers, documents issued, shipment handle along the routes with many activities such as: freight offers, customs clearance, inland transport, etc. connected by multimodal channel of transports, warehouse or cross docking service management, to reach consignee's destinations.

Freight Forwarderreferred to an international specialist, offering delivery service for international shipment (Murphy and Daley, 2000).A full complement of international logistics servicesto provide air, sea, land transportation and plan to solve model which could not meet time-critical deadlines (R+L Global, 2015).

A freight forwarder's basic functions are in role as suppliers' arrangement for cargo shipment and shipping documentations from country of original to international destinations. For a small quantity cargo, forwarders manageto provide partial shipment volumeby less than container loaded (LCL) consolidation.Among

them, one is called as a master consolidator (freight supplier) and customers as "coloader" (freight buyer). Hence, the freight buyer is alsoa second tier freight supplier for their coloaders (exporters/importers) in the transport market. They are in form of freight broker, 3PL, logistics provider, etc. who has to handle LCL shipmentfrom their customers. A highlight in thisactivity is when a master consolidator unable to perform a service because insufficiency in volume quantities, or having no service to some certain area,they have to coload out.There are always happened in everywhere and everyday, of which players' strategies are swerved from own insourcing to be outsourcing.Such a bet is challenging in between gain or loss from cargo volume and freight cost impact.Therefore, the consideration in matrix of price, operation and all relevant factors have to considered carefully recommended by Bailey, Farmer, Jessop and Jones, 2005.

B) Strategic purchasing and competitiveness

Baily et al., 2005, p.57suggested the competitive advantages available from purchasing strategies was buyer focus onmix of resources; emphasize creative management in use of resources vis-à-vis competition.

Lysons and Farrington, 2006, p.14 stated that competitive advantage may be sought via lower cost or inventories.Lysons and Farrington, 2006, p.62 recommended one of the most popular portfolio approaches was the Boston Consulting Group (BCG) matrix.The strategies to adopt at all three strategic organizational levels: corporate, business and functional/operational.

Handfield, Monczka, Giunipero and Patterson, 2009 reviewed the communicationlinkage of many firms are now through co-locating supply management personal directly at operating locations throughout purchasing, so supply management can respond quickly to operation's need.

C) Sourcing Techniques and Total Cost of Ownership

Ellram, 1994stated that Total Cost of Ownership(TCO) concept may include element as order placement, research and qualification of suppliers, transportation, receiving, inspection, rejection, replacement, downtime caused by failure, disposal costs and so on, While TCO analysis can be applied to the make-or-buy decision, it should also be applied after an organization has determined that it will use a third-party (buy) rather than an internal source (make). Transaction costs can vary among suppliers and can be an important decision factor.Canez, Platts and Probert, 2000claimed that transaction cost economics leads to Make or Buy framework. Their work is a first step towards providing performance measures for the assessment of business benefit delivered by individual make-or-buy decisions.

Ramsay and Wilson, 2007 concluded the choiceof sourcing strategyinto the matrixshows buyers may choose to purchase:(1) from one source only (single source). (2) from more than one source (multi-sources). (3)Thesource of supply itself (backwardverticalintegration), and once implemented, this strategy becomes the decision to supply the material or service yourself (make in).

Baily et al., 2005 said that many implications of source decision-making may vary by the type of purchase being made. Handfield et al., 2009 recommended the supply management and operations must be aware of the components and services needed by operations to fulfillcustomers requirements for products or services. This may include outsourced materials, services, travel, hotel, information technology, and labour.

Handfield et al., 2009 shared that in developing sourcing strategy; in final combination often found is for bottleneck items, which have specific requirements with less number of suppliers. Limitation in number of suppliers in the market can control over the price. A detailed negotiation should take place that establishes high levels of service as critical to the business.With specific service level agreements, ensure capable of handling orders from multiple locations. There were many reasons for firms to do overseas outsourcing, which are: cost benefit, low labour cost, productivity levels, low production cost and material cost by capacity, different in exchange rate, subsidize by government, product process technology, and quality, lead local supplier to international competition. However, Bailey et al., 2005, p.192 proposed the trend of using single source approach is becoming increasingly popular but it's not a good idea to apply in all situations. In some case, multiple sources with plenty of suppliers will be much better than a single source and many factors have to be taken into account. Valid arguments can be found on both sides, whether single sourcing has paid off handsomely as well as advantages have been gained by dividing the business. They suggested consider analyzing each situation, which were Effect on price,on security of supply, on supplier motivation willingness to

oblige, design innovation and so on. Finally, Effect on market structure: if single sourcing lead to a monopoly,there will be no alternative supplier in the market.Thus, international purchase is more difficult than a local purchase which requires more procedures and documents. In the international trading, Incoterms allow the international buyer to choice for the paying term such as C&F (Cost and Freight); FOB (Free onboard) as buyer's choices for whether the transport cost will be paid at origin by shipper or collected from consignee.

Lysons and Farrington, 2006, p.16proposed future purchasing will increase in the strategic important of supplier selection, evaluation and management. Increasing in speed of ordering and automated system, low value purchase, non-critical; standardize and more in outsourcing. Leading organizations will establish the strategic purchasing competency centre or cross-functional personnel responsible for achieving competitive advantage via partners in the chain, sourcing performance is mainly measured by purchased price, and this will be as part of the overall contribution of purchasing supplier management to profit.

Valsamakis and Grove, 1996explained that the supplier sourcing is important in today industry to practice. Suppliers in the chain are a factor influence the company performance.

Choyet al., 2003emphasized sourcing selection is important in the supplier management. Appropriate suppliers who produce the good price and good quality will lead competitiveness to the company. Lysons and Farrington, 2006, p.17 indicated that suppliers with competitive price, quality and lead times are simply found in world class supplier attributes, world classstrategic purchasing.Suppliers are regarded as a competitive edge that responsible for a major share of product cost. Hence, in this study, strategic sourcing concreted on decisions making uses, techniques from strategies related to insourcing (make); outsourcing (buy); multi methods (make and buy); (multiple sources – more different sources or countries), and tco: total cost of ownership. This framework had provided a set of dummy data as local chargesbe illustrated for TCO costing.

D)Profit abilities, Competitiveness, Competitive advantage

Sigalaset al., 2013mentioned competitive advantages as focus on "economic value" to be measured as "economic performance". Competitive advantages in several papers were defined as "the degree to which a firm has exploited opportunities, neutralized threats and reduced costs" but rather the degree of firm competitiveness. In addition, they agreed with several scholarswho have argued that competitive advantage must be defined its expression or dimensions be compared with firm's competitors.

Furthermore, Aksoy, 2013suggested "firms could benefit from the use of more sophisticated and advanced modelling approaches which have the potential to uncover patterns in business results.",this congruent to the work ofMohamedet al., 2014. Finally,their model employedone more dimension as "assets" loaded into the frame.Attributes were declared as resources to value more constructive variables:cost, assets and revenues.Their findings suggested inputting added value variable awareness, not onlytwo variablesliked all previous studies.The most appropriate strategies must be used to reduce costs and increase revenues together. "Limited studies have extended use of the profitability concept by focusing on the key profitability elements that are determined by analyzing the components of key profitability measures"(Mohamed et al., 2014).

All Key elements of this study: sourcing; profitability; competitive advantagewere concluded as below:

- Strategic Sourcing Techniques: Make (insourcing),Buy (outsourcing), Multi-methods (make or buy) Single source (one supplier); Multiple-sources (more than one supplier whether make or buy), TCO.

- Profitabilities: cost, revenue and margin abilities.

- Competitive: competitiveness, competitive advantages, sustainability.

The profitability model hypotheses were pilot-tested through evaluates the quotations fromtwenty managers (fifteen from carriers, another five from forwarders)simulated the impact of such a model on profitability.

Thus, hypotheses for the profitability model can be formulated as follows:

H1. Cost and margin techniques are related to profitability.

H2. Cost and revenue techniques are related to profitability.

H3. Revenue and margin techniques are related to profitability.

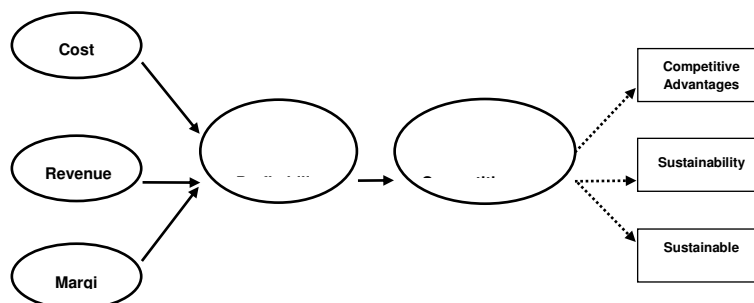H4. Cost, revenue andmargintechniquesare more related to profitability than any of therelationships identified above.

Fig. 1.Conceptual framework

2.3. Research methodology and method

A deductive approach was used to investigateelementswhich being included in a profitability measuring model. Phase 1 reviewedprevious studies in the field and from this the key drivers in managing profitability from theliterature were established as costs, revenue and profit margin. 42 articles has been investigated, reviewed and selective pickedto develop such a model, focus on strategic purchasing, sourcing techniques; profitabilities, benefits on competitiveness and competitive advantages. Secondary research was undertaken to determinewhich strategic elements are most important at theoretical and freight industry and whichstrategic sourcing techniques are most appropriate to manage eachtechnical in sourcing elements and each identified driver. Focus is on the strategic and holistic view of the drivers combined, add-in model testing, the most appropriate weighing were reviewed, alternativesof assessment techniques to the areas of profitabilities assessment, and developing scales for profit/margin from sourcing elements (insourcing, outsourcing, multi-method, tco) are considered. This led to techniques being identified for appropriate inclusion in the model interpretation (see Appendix 1).Phase 2 of the research, pilot-tested was done into 2 parts: first, secondary data employedfrom UNCTAD, 2011 (p. 172) to simulate the calculations, second part, thesamples were applied into pilot-test. Illustration explained the interpretation of cost;revenuesand EBITDA asobjectivityaffects profitability, to determine figures and provided the best explanation of profitability weighed resultsas competitiveness. (Interpretation: quantitative value to qualitative explanation, seeAppendix 2)

Table 1.Competitiveness dimensions and objectives

Authors	advantages	variables	objectives
Handfield et al., 2009	communication linkage	direct contact	operations contact
Lysons et al., 2006	competitive advantage	lower cost	lower inventories
Baily et al., 2005	competitive advantage	resource mix	utilization
Leenders et al., 2002	competitive conditions	product price	price information; product availability, lead-time

Due to time and resource restrictions, the current study focuses only on the members of the Thai International Freight Forwarder Association (TIFFA).The determination of such a sample is justified as follows: firstly, in cost preparation, to purify the standard market rates, researcher asked fifteen shipping lines to submit their sea freight quotations for 20' containersrates, export service from Thailand to specific threemainports which are:Singapore, Hamburg and Los Angeles as in table 2.

Table 2. Export ocean freight costs for 20'FCL (full container loaded)from Liner.

Destination / Liners[1]	Liner A	Liner B	Liner C	Liner D	Liner E
Singapore (SIN) - Asia	375	425	450	380	395
Hamburg (HAM) - Europe	700	750	775	800	850
Los Angeles (LAX) - USA	1060	1100	1144	1170	1248

[1]The name of the Company is anonymous

These three main ports were selected purposively in order to illustrate costs of short and long routes represented for Asia, Europe and USA. After all quotations as an instrument in this surveywere received from all respondents, the best five offers were selected from total fifteen. (Interpreted done by if-then conditions in electric mean, same to work of Pisoot, 2009b) The selections were done three times in order to input rates ofall ports completely.The names of the companies are anonymous, then liners were called as Liner A, B, C, D, and E.

Second, five leading freight forwarders who mainly offer LCL sea freight services in the market werepurposively selected, asked their quotations to fill up these three main areas. Any incomplete quotation which did not provide to complete allthese three ports, researcher reminded them againby called for resubmit the complete one. Then, the results were shown in table 3.

Table 3. LCL ocean freight selling rates to allcoloaders fromrespondents

Destination / Forwarders[2]	3PL-A	3PL-B	3PL-C	3PL-D	3PL-E
Singapore (SIN) - Asia	5	8	7	12	7
Hamburg (HAM) - Europe	30	28	25	15	25
Los Angeles (LAX) - USA	45	40	55	48	45

[2]The name of the Company is anonymous

The respondents quoted their selling cost per unit (cbm). Calculationthe full container (20') costconvertto LCL cost was illustrated in the next section. (Table 5)

2.4. Approach to testing the model

Preparation for testing based on robust conceptual stipulate variables, (see table 4)sourcing related to practices alikeIncoterms.

In marine service, shipping lines are not accepting LCL shipment, since they concentrates to sell freight only for full container loaded (FCL).Hence, forwarders make their own consolidated service by purchase a FCL container to break for LCL service. Such an own make freight supplier (regarded as master consolidator) who applied insourcing technique will control and facilitate all the activities; e.g. LCL freight and local charges, cargo loading, as well as network agent at destination are under own control.This own source similar to C&F (Cost and freight) of Incoterms.On the other hand, a forwarder purchases LCL service is a coloader who is making outsourcing, then such freight buyer lefts all these activities in shipment handling to the freight supplier. And if under a freight collect,as FOB (free onboard)basis, the freight supplier will ask his destination agent to collectfor the importer payment, this couldbe regarded asapart outsourcing.

Table 4. Sourcing mixes in freight suppliers

Strategies	Make			Buy		
items	Freight	Local charge	Network	Freight	Local charge	Network
Insourcing	insource	insource	insource			
Outsourcing				outsource	outsource	outsource
Multi methods	(insource)	insource		(outsource)	outsource	outsource
TCO	insource	insource		outsource	outsource	outsource
Hybrid Sourcing*	insource	insource	insource	outsource	outsource	outsource

( ) choose only one choice, * alternative proposal

This empirical research needs to purify the standard of measurement, thus the study tested on a trial simulated calculation as result in Appendix 2, by first, employed secondary datafrom UNCTAD, 2011,p.162; the figures of Dubai port world's performance. Second, applied the simple standard statistical technique as World Bank (2012, p. 53) indicated for evaluation the Logistics Performance Index. UNCTAD, 2011, p.162 showed consolidated TEU is a performance indicator for port performance as well as the revenue and throughput percentage. EBITDA means earning before income tax and depreciation and amortization. The figures were given only revenue and EBITDA without cost of expenses.To find it out, this study used EBITDA subtracted from annual revenue amount.A brief example using 2010 compared with 2007as the base year calculation. The costs of Year 2007 and 2010 were $1550millions and $1838 millions respectively (see Appendix 2). The differenceof $288 millions represented an increasing cost (18.58% could beassumedto beextra expensescompared with the base year 2007). Secondary data as aninstance,the performance analysis can be measured by revenue. Calculated using the same conceptual comparison tothepairwise, andconsidered into two means, first is within groups (by same variables) and second is between groups (by different groups of samples).Illustrated results were in Appendix-2.

2.5. *Formatting the scale*

Thestudy aims to build a scale ratiofor weighingdifferentiates between those who gain competitiveness, and those who merely meet his break-even point. The summarized objectives interpreted intoexplanations subjectively.Alike convertinga value resulted from Linkert scales revert back to its items (Pisoot & Heesawat, 2015).Enlisteda panel were made with four consultants for a validation.The alternatives of choices for developing scales and scoring methods had been discussed.A pilot-tested was done and potency in defining the methods.

Refer to alternatives of weighing techniques,Yount (2006) stated for 12 developing scales in his research design and simple statistical analysis. Usually, the mainly used were: The Likert Scale, The Thurstone Scale, The Q-Sort Scale, and The Semantic Differential, all these were for scoring recommendation to suit for different purposes. With four consultants, as commentators and advisors for this study, (two academics familiar with the international forwarding industry and lecturers in logistics and supply chain management, one academic statistician specializing in education quality assurance and assessment research and one practitioner.)Such a small focus groupwere questioned to comment for which type of scales, they want to apply and suit to the choices ofusing.Finally, all given comments were concludedthat developing method must be scales equivalently for more than ten levels in order to divide the capabilities into at least 3-4 categories.Hence, only the Thurstone scalecould meet suchrequirement.Developing tools forscores ratingfollowedthe Linkert scale which consists of statements that are all of equal weigh (Yount, 2006). However, The Thurstone attitude scales have a range of weighs from high (usually 11) to low (usually 1). Thescores result from computing the average of the weighs of items selected. Thus this study adopted the Thurstone 11 scales to weigh for scoring.Therefore, aforementioned calculation as pilot-tested was done; results were showed in appendix 1, and2.

The scores of each scale transformative value to each stage meaning.Such a value interpretedfrom quantitative input data as a measurable objective into a qualitative explanation subjectively.The moderate level

represented a setting break-even point (x-bar) by mean of the group studied. When one's revenue is lower than the break-even, means that the company is challenged into facing loss stage (Pisoot, 2014, pp.223-226).It does not an essential to think further for its competitiveness than how to secure back the business's income.Recovery from loss to profitable level might be considered. Alternatives to gain back the equivalent cost for break even,higher incomewould be further related to many other activities besides its sales, marketing and promotions,or the recapitalization, re-injection from their stakeholders, these are not included in this study.

2. Data Analysis

The data was analyzed with standard statistical method, followed the performance measurement of the World Bank (2012) using a standard statistical methodology for the LPI, showed in page 53-54 of their material, 3rd edition of "Connecting to Compete 2012":Trade Logistics in the Global Economy (the World Bank, 2012).First, an illustrationas a pilot-tested was in Appendix 2,and section 1.5 for developing scales. Second, the calculation from FCL cost into LCL cost per CBM (25 cbm per TEU: twenty equivalent unit)-recommended further reading to Kollerath, 2015for "how to calculate CBM in LCL export shipments".

2.1. Profit, margin, abilitiescalculation

Table 2 showed dry container 20' freight costs from liners. These rates were not included other local charges (such as port handling and document fee). Ginifab.com (2005) mentioned in calculator webpageas loading ability of a 20' container is around 26-28 cubic meters (CBM) approximately. Terry cited in Maxim, 2015, p.20 mentioned 20' container contained 22 metric ton loaded gross weight. However, in practice, liners will accept standardize for 20' not exceeding 18-21 m/tondue to port's and vessel's crane lifting capacity on safety issues. To avoid any confusion, this study set a standard volume for a 20' FCL equal to LCL 25 cbm in calculations. Hence, table 5 showed LCL net cost per unit from FCL cost in table 2 divided by 25, and rounded up for zero decimal places. Normally, a ready-selling priceis without any decimal places.

Table 5. LCL Freightcost per unit (CBM) from FCL 20'

Destination / Forwarders	3PL-A	3PL-B	3PL-C	3PL-D	3PL-E
Singapore (SIN) - Asia	15	17	18	15*	16*
Hamburg (HAM) - Europe	28	30	31	32	34
Los Angeles (LAX) - USA	42*	44	46*	47*	50*

*numbers rounded up aszero decimal places

2.2. Relationship between the proposed cost, revenue, margin and profitability

All predictors for four sourcing techniques (insource, outsource, multi, tco) are significant in predicting profitability.Illustration from now on all referred in Appendix 3, first, liners' costs as in table a,then table b calculated into cbm adjusted to round up.A focal firm's in-house cost by consolidation for own marketing and sales as insourcing. Table d,selling prices quoted to other forwarding companies. Market pricesare outsourcing for selling to all co-loaders. Table e showed some forwarder's insourcing cost compared to market offers should better do outsource, since they insource more, will loss more. The multi-method wouldbe taken intoa decision in selectingown make consolidation, andwhere should be better coload out.

For a completed presentation, this study employed a dummy set of data by putting more $17 to each in the matrix. Table f, additional $17 added to all samples, this purposed to eliminate the maximum loss to simulate for additional local charges, as well as a good instance for a sample for break-even cost.After adding, table g. showedall total costs regarded as TCO. Look alike some customer purchased a lump sum rates which including all the local charges of loading and destination countries. Table h. achieved calculation for profit amounts which ready for profitability performance evaluation.

2.3. Profitability performance and scoring technique

Profitabilities in this study showedin two methods, first profit amount compared to its cost (returns on cost: ROC), this is profit performance (Appendix 3, table I). Second, profit amount compared to revenue (returns on revenue: ROR), this is margin profitability (table II). The study selected only port Singapore for an example, due to limitation of pages for this article.

Purifying this research,totally three alternatives represented for profitabilities assessments methodology:

1) The Thurstone scale, difference between highest and lowest percentages as 60% were equally divided into 10remainder scales equally. The maximum level rank is for the best practice.

2) The Min/Max method, using a simple standard statistical technique,all results averagedfor a mean. 63.33 set atthe middle level of scales (level 6th). Remainder ranksby equally 12.67 points (starting from zero point). Thismethod is useful if someone hit over the best practice to another higher level.

3) The X-bar method (within group), this is similar to Min/Max method, but focus only the mean ($\bar{B}$) of all samples within group, which not from the highest and lowest score.

This study concreted focus on profitability of margin performance, then analyzed as table II in appendix 3.

3. Findings

Data was analyzedfor profitabilities from margin performance, resulted asfindings:-

- Method 1) the Thurstone, the third party logistics – Company A got 31.82% was in rank 4, where is near to the low performed part. (Rank 3); Company B, 32.00% had no significantly difference from company A. At moderate level, members were challengedto low performance area. Company C earned the lowest margin, although 25% is quite a fruitful but criticalto quit from this traffic.Since the firm is at the lowest rank, lower than means of all methods. Company D, the highest 48.28% represented for the best practice. Company E got 33.33% similar level in rank 4th to company A and B, but firm is easily to shift up level 5th which need more only 0.98% to reach 34.31% as its benchmark.

- Method 2) Min/Max method, company A, B, and E were in between rank 5th-6th, challenged their break-even.Company C was in lower level (between 4th and 5th).Company D in rank 7-8 is at competitive level for firm but only in short-term.

- Method 3) Mean X-bar method, company A, B, C, and E were out from mean of the group, since $\bar{B}$ is 0.3409 equal to 34.09% all of them were very far from company D, who jump across in between level 7 and 8 to level 9th, which is a longer term and fruitful in this traffic for service to Singapore port.

Finally, the findings achieved the setting hypotheses:

The cost effects margin, considerationin cost reduction focus base on FCL cost to Singaporewould no any impact effects significantly, since every one got quite no difference in cost from the liner.

Agreed that revenue should be in mainly focus but this was only an example for service to Singapore.The other arrears should be in forward analysis for somewhere when costs from liners are significantly different.

The most impact was revenue created good margin, selling price in this test is the main key driver for profitability from service to Singapore port.

Cost, revenue and margin techniques are having a strong relationship more related to profitability than any identified above.Not for all areas require to focus only cost or revenue and margin.Types of sourcing techniques applied will cause more important relationships impact to all cases. When a freight cost is increased

by liners at higher level.The differences among competitors cost must be investigated.Simulation for other trades, such as Europe andUSA might resultprofitabilities performance differently from Singapore.

4. Discussion

The purpose of this model is to manage overall profitability from a strategic perspective. This requires performance with profitability results from sourcing by interpreting how each driver affects profitability and how these drivers are scaled by weighs for appropriate strategic sourcing techniques to manage overall profitability.Only one instance in this study could not be concluded no any significant cost effects for other cases. In contrast, these variables have a statistically significant effect on profitability in the overall model thought different sourcing decisions. In addition, all service providers may be faced somenegative value, whichmeans cost per a unitfrom insourcing is over than the market prices. (Pisoot, 2014, p.220, 224) The challenges of make or buy, as well as multi methods should be selected, techniques applied to increase firm's competitiveness through sourcing decisions and policy. A major finding of this study reveals that all the proposed strategic sourcing techniques used in managing costs, revenue affected to competitiveness in term of buying selling price, significant in predicting overall profitability in the comprehensive model. This emphasizes that there is a significant relationship between cost and profitability, revenue and profitability, and margin and profitability.

A significant result of this study suggests that there is a positive relationship between thecombinations of cost and revenue, cost and margin and revenue and margin andprofitability.This study gives a robust constructive model in weighing structure literature supported from work of Mohamed and Jones, 2014 concluded three drivers of cost, revenue and asset with more requires focusing on customers to achieve competitive advantage.The most important affectsprofitability could be customer value creation,thissupported attribute as "value for money freight rate" of Matear and Gear's work since 1993.

5. Conclusion

This paper explores the development of such a strategic sourcing model to assess profitability. No previous research in this subject area has combined same three key drivers in such a way. In addition, no previous research in this subject area either profit capabilities; competitiveness measurement has been conducted in Logistics.Hence, this exploratory research adds new knowledge in the field, both through the theoretical development and industry for further testing of the model.

This comprehensive model createsa new strategic in measuring profitability, margin calculation to competitiveness assessment form a strategicperspective. Using other strategic management techniques in managingeach driver such as process-based ortimely-based management techniques onperformance (Pisoot & Pochaman, 2015) is another interesting area for future research. Additional effort is needed todevelop other non-financial indicators for managing intellectual resources utilization, service performance and supplier relationship to explore their relationship with profitability and benefits.

Further work is also needed to examine the strength of interrelationships and overlapamong the sourcing.The framework will be developing as a recommendation proposed by Mohamed and Jones, 2014 to study further more for non-financial term measurement, thisencourages firm as a first step leads to sustainability pathway.

In order to stipulate a holistic design managed together with SST in coherent non-financial model, further hypotheses can be formulated as below:-

Ha) Insourcing positively influences profitabilities.

Hb) Outsourcing positively influences profitabilities.

Hc) Multi sources positively influence profitabilities.
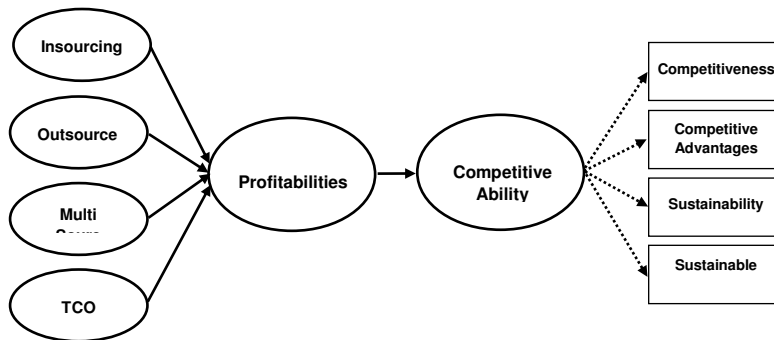
Hd) TCO method positively influences profitabilities.

Fig. 2.Developed by Author for future study

From the literature review, key success factors to be considered in strategic sourcing techniques (e.g. make-or-buy decisions, multi sources, and total cost of ownership). Perceives would be identified and grouped into categories, from interviews with academics and service industrialists' recommendation for relationship studies onnon-financial items(such as: service dimensions) in Service Performance Unit: SPU (Pisoot, 2013a; 2014) for future work in sustainabilitydevelopment.

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About the author

Pisoot Thankdenchai has been working in Logistics for more than 25 years, starting from the operational level. Currently he is the Director of Dragon Star Maritime Co. Ltd., responsible for performing logistical functions for major corporations in Thailand. He also performs Guest Lecturing roles in various universities, and counselling roles in various companies in Thailand. Simultaneously, he is a Doctoral Candidate in the Faculty of Logistics and Supply Chain Management, doing a thesis on the Impacts of Service Quality of Logistics Service Providers in Thailand towards the Sustainable Competitiveness of the Enterprises.

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APPENDIX 1

Theoretical bases interpretation: Sourcing to strategic approaches

Relationship sources	Resources management (5M)	Systems approach
price	money	input
personal/people	man	process
practice	management	output
	(machine)	throughput
	(material)	

Cost + Q'lty + Design	Related effects	Performance
profit	price	efficiency
lifetime	personal	effectiveness
lifetime + design	practice + personal	effectiveness + effectiveness
cost + lifetime	price + practice	efficiency + effectiveness
cost + lifetime + design	price + practice + personal	efficiency + effectiveness + effectiveness

Sourcing Techniques	Profitabilities	Valuation
insource	competitiveness	value of money
outsource	competitive advantage	value added
multiple strategies	sustainability	value of quality + value added
TCO	sustainable competitiveness	value of money + value of quality
(Hybrid sourcing)*	sustainable competitive advantage	value of money + value of quality + value added

Sourcing Techniques	Logistics provider's in purchasing
insource	make own consolidated service for direct cost
outsource	co-load to other for direct cost
multiple strategies	choices between MoB
TCO	focus in total cost (freight + local charge + agent's charges)
(Hybrid sourcing)*	focus all total cost with mixed method of MoB

Source: Author

Scale Ranking: The Thurstone scale construction

A range of weighs from high (usually 11) to low (usually 1).

Subjects select the attitudinal statements they agree with most.

Then, scores result from computing the average of the weighs of the items selected.

Indicators	11 scales	Cumu.	Mean/Cum	Meaning
Bad	1	0	0	Bankrupt
	2	3	1.5	Worst
	3	5	2.5	Crisis & Heavy loss
	4	7	3.5	Continued loss
	5	9	4.5	Loss & B/E Challenge
(Moderate)*	6	11	5.5	Equally B/E & Loss Challenge
	7	13	6.5	Profit - Competitive (today)
(Good)	8	15	7.5	Profitability - Competitiveness (these days)
	9	17	8.5	Profitability Advantage - Competitive Advantage (by week)
(Excellent)	10	19	9.5	Profitability enable longer Compet - Being Sustainable (by month)
Best Practice	11	21	10.5	Wealth Stage -long-term Compet = Sustainable Competitive Advantage (by year)

Source: Author's analysis

APPENDIX 2

REVIEW OF MARITIME TRANSPORT (2011)				UNCTAD (2011)				*Author's calculation*
Performance figures of Dubai Ports World				P.162				

Performance Indicators :	**Dubai Ports World**							
Years	2007		2008		2009		2010	
revenue ($mill)	2613		3283		2821		3078	
cost ($mill)	1550		1943		1749		1838	
profit ($mill)	1063		1340		1072		1240	

A) Portion Calculation - by Revenue base

within group	2007	2007	2008	2008	2009	2009	2010	2010	Total	Mean	x-bar	
revenue	2613	100.0%	3283	100.0%	2821	100.0%	3078	100.0%	11795	2948.75	100.0%	
cost	1550	59.3%	1943	59.2%	1749	62.0%	1838	59.7%	7080	1770	60.0%	
EBITDA	1063	40.7%	1340	40.8%	1072	38.0%	1240	40.3%	4715	1178.75	40.0%	(Margin)

between groups	2007		2008	YoY	2009	YoY	2010	YoY	Total	Mean
revenue ($mill)	2613		3283	670	2821	-462	3078	257	11795	2948.75
revenue (%)	100%		126%	25.6%	86%	-39.7%	109%	23.2%	100%	100%
cost ($mill)	1550		1943	393	1749	-194	1838	89	7080	1770
cost (%)	59%		211%	152.0%	67%	-144.4%	70%	3.4%	60%	60%
profit ($mill)	1063		1340	277	1072	-268	1240	168	4715	1178.75
profit (%)	41%		51%	10.6%	33%	-18.6%	44%	11.3%	40%	40%

Result:

(1) Revenue base 100 / Cost 60 / Profit 40 equal to ratio 10:6:4

Under these scores the fair value (no gain/no loss) to meet break-even that is 60% from revenue had to cover the cost.

In this model, lower than 60% will be critical, the company (DBX port) will faces the loss. Hence the scale point to control weighing scale

from total marks 100 can be drawn as: Revenue as: 10 = excellent / 6 = Moderate / 4 = Weak

Thus, above than 6 points = is competitive Revenue which also a competitive margin

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B) Portion Calculation - by Cost base

Construct the same meaning but switching a full mark 100% on cost

within group	2007	2007	2008	2008	2009	2009	2010	2010	Total	Mean	x-bar	
revenue	2613	168.6%	3283	169.0%	2821	161.3%	3078	167.5%	11795	2948.75	166.6%	
cost	1550	100.0%	1943	100.0%	1749	100.0%	1838	100.0%	7080	1770	100.0%	
EBITDA	1063	68.6%	1340	69.0%	1072	61.3%	1240	67.5%	4715	1178.75	66.6%	(Profit)

Result:

 (2) Cost base 100 / Revenue 166.60 / Profit 66.6% equal to ratio 100/66.6

Source: Author's analysis from secondary data of UNCTAD (2011, p.162)

APPENDIX 3

a) FCL freight cost (20' container from liners)

Destination / Liners	Liner A	Liner B	Liner C	Liner D	Liner E	$\bar{X}$
Singapore (SIN) - Asia	375	425	450	380	395	405
Hamburg (HAM) - Europe	700	750	775	800	850	775
Los Angeles (LAX) - USA	1060	1100	1144	1170	1248	1,144

b) LCL freight cost (by 25 cbm/20' FCL)

Destination / Liners	Liner A	Liner B	Liner C	Liner D	Liner E	$\bar{X}$
Singapore (SIN) - Asia	15.00	17.00	18.00	15.2*	15.8*	10
Hamburg (HAM) - Europe	28.00	30.00	31.00	32.00	34.00	31
Los Angeles (LAX) - USA	42.4*	44.00	45.76*	46.8*	49.92*	9

* number round up resulted without decimal

c) LCL unit cost rounded up (25 cbm in 20' FCL container) Insource

Destination / Liners	Liner A	Liner B	Liner C	Liner D	Liner E	$\bar{X}$
Singapore (SIN) - Asia	15	17	18	15	16	16
Hamburg (HAM) - Europe	28	30	31	32	34	31
Los Angeles (LAX) - USA	42	44	46	47	50	46

Strength & Weak of costing - reflects Profitability and Relationship consideration

d) Market Selling rate to Co-loaders (picked from samples' quotations) Outsource

Destination / Liners	3PL-A	3PL-B	3PL-C	3PL-D	3PL-E	$\bar{X}$
Singapore (SIN) - Asia	5	8	7	12	7	8
Hamburg (HAM) - Europe	30	28	25	15	25	25
Los Angeles (LAX) - USA	45	40	55	48	45	47

e) Profit from selling (type: coloader) Multi

Destination / Liners	3PL-A	3PL-B	3PL-C	3PL-D	3PL-E	$\bar{X}$
Singapore (SIN) - Asia	-10	-9	-11	-3	-9	- 8
Hamburg (HAM) - Europe	2	-2	-6	-17	-9	- 6
Los Angeles (LAX) - USA	3	-4	9	1	-5	1

* the worst case for maximum loss in group = minus 17 to create dummy values.

f) Simulation for Local charges at both ends (Dummy value*) (variable)

Destination / Liners	3PL-A	3PL-B	3PL-C	3PL-D	3PL-E
Singapore (SIN) - Asia	17	17	17	17	17
Hamburg (HAM) - Europe	17	17	17	17	17
Los Angeles (LAX) - USA	17	17	17	17	17

* Dummy value = 17 maximum value adjusted in order to kill maximum loss in group.

g) Selling Rate to Customers TCO

Destination / Liners	3PL-A	3PL-B	3PL-C	3PL-D	3PL-E	$\bar{X}$
Singapore (SIN) - Asia	22	25	24	29	24	25
Hamburg (HAM) - Europe	47	45	42	32	42	42
Los Angeles (LAX) - USA	62	57	72	65	62	64

h) Profit from Selling (type: customers) Profit

Destination / Liners	3PL-A	3PL-B	3PL-C	3PL-D	3PL-E	$\bar{X}$
Singapore (SIN) - Asia	7	8	6	14	8	9
Hamburg (HAM) - Europe	19	15	11	0	8	11
Los Angeles (LAX) - USA	20	13	26	18	12	18
Total 3 areas	46	36	43	32	28	

I) PERFORMANCE - Profit ROC : Profit

Performance - based on COST: Profit
Differences of FREIGHT rates (insource)

Destination / Liners	3PL-A	3PL-B	3PL-C	3PL-D	3PL-E	$\bar{X}$
Singapore (SIN) - Asia	46.67%	47.06%	33.33%	93.33%	50.00%	0.541
Hamburg (HAM) - Europe	67.86%	50.00%	35.48%	0.00%	23.53%	0.354
Los Angeles (LAX) - USA	47.62%	29.55%	56.52%	38.30%	24.00%	0.392
Total 3 areas: @average	54.05%	42.20%	41.78%	43.88%	32.51%	0.429

II) PERFORMANCE - Margin ROR : Margin

Performance - based on REVENUE: Margin
Differences of FREIGHT rates (insource)

Destination / Liners	3PL-A	3PL-B	3PL-C	3PL-D	3PL-E	$\bar{X}$
Singapore (SIN) - Asia	31.82%	32.00%	25.00%	48.28%	33.33%	0.3409
Hamburg (HAM) - Europe	40.43%	33.33%	26.19%	0.00%	19.05%	0.2380
Los Angeles (LAX) - USA	32.26%	22.81%	36.11%	27.69%	19.35%	0.2764
Total 3 areas: @average	34.83%	29.38%	29.10%	25.32%	23.91%	0.2851

e.g. Port: SINGAPORE

Scales construction / group	Destination:	Thurstone method Singapore	Average method Singapore	x-bar method Singapore	Range method Singapore
min (within group)		33.33	33.33	33.33	0
max (within group)		93.33	93.33	93.33	126.660
mean (diff: mm: x-bar)		60.00	63.33	54.078	54.078
by simple statistics			12.67	10.816	11.515
Thurstone scale (10:11:11)		6.00	11.51	9.832	

e.g. Port: SINGAPORE

Scales construction / group	Destination:	Thurstone method Singapore	Average method Singapore	x-bar method Singapore	Range method Singapore
min (within group)		25.00	25.00	25.00	0
max (within group)		48.28	48.28	48.28	73.280
mean (diff: mm: x-bar)		23.28	36.64	34.085	34.085
by simple statistics			7.33	6.817	6.662
Thurstone scale (10:11:11)		2.33	6.66	6.197	

Profit Performance(Profit)	Stage	B/practice	average	by means	Range
	1	33.33	1.00	0.00	0.000
	2	39.33	12.67	10.816	11.515
	3	45.33	25.33	21.631	23.029
	4	51.33	38.00	32.447	34.544
	5	57.33	50.66	43.263	46.058
(Moderate)	6	63.33	63.33	54.078	57.573

Profitability (Margin)	Stage	B/practice	average	by means	Range
	1	25.00	1.00	0.00	0.000
	2	27.33	7.33	6.817	6.662
	3	29.66	14.66	13.634	13.324
	4	31.98	21.98	20.451	19.985
	5	34.31	29.31	27.268	26.647
(Moderate) / Break-even	6	36.64	36.64	34.085	33.309

Competitive zone	7	69.33	76.00	64.894	69.087	Competitive Margin (today)	7	38.97	43.97	40.903	39.971
(Good)	8	75.33	88.66	75.710	80.602	Competitiveness (these days)	8	41.30	51.30	47.720	46.633
(Well)	9	81.33	101.33	86.525	92.116	Com. Adv. profitability (by week)	9	43.62	58.62	54.537	53.295
(Excellent)	10	87.33	113.99	97.341	103.631	Sustainable profitability (by month)	10	45.95	65.95	61.354	59.956
Best Practice	11	93.33	126.66	108.157	115.145	Sustainable Compet-Adv. (by year)	11	48.28	73.28	68.171	66.618

Source: Author's analysis

Lecturer'ssatisfaction towards hard skills and soft skills of Indonesian Student's at Burapha University

Agus Riyadi and Regina Maria Prista

Abstract

This study focused on the level of hard skills and soft skills' Indonesian Student. Getting higher Grade Point Average (GPA) does not mean that students can survive in this globalization challenges. Hard Skills are a learning process and also well known by technical skills and Intelligence Quotient (IQ). Hard skills are all about knowledge and technical to develop their mind in reality, such as things in their field (Cientist, 2013). In university, hard skills can be seen by GPA. If students get higher GPA or above the university"s standard, we could say that they can follow and understand the instructure from lecturers, then their hard skills are good. But, if students get lower GPA, we could conclude that students do not understand what the lecturer said or they can not absorb the material well. According to Bahrumsyah (2009), soft skills are skills for communicating with other people (Interpersonal Skills) and manage themselves (Intrapersonal Skills) to develop the work optimally. Therefore, university built student club for student to socialize with other student, learn how to discuss and solve the problem, learn another personality, learn how to be confident in a public and others. Nowadays, student who gets higher GPA is not a guarantee that he or she has good soft skills.

The objectives of this research are to found the statisfaction level of lecturer who has taught Indonesian Student in Burapha University, Thailand and to investigate the influence between Indonesian Student" hard skill and soft skills toward satisfaction level of Lecturer in BUU. The research method used is descriptive correlational study, researcher used survey questionnaire to collect the data. The questionnaire is distributed to 24 lecturers in BUU. The questionnaire consists of 3 demographic questions, 9 questions of Hard Skills, 15 questions for Soft skills and 8 questions for satisfaction level.

The results that had been collected and analyzed shows there is a positive relationship (hard skills, r = .610; soft skills, r = .720) between both variables. This research also shows that soft skills and hard skills have influence (Rsquared = .538) on satisfaction level. Moreover, the result of F-test also shows that there is a significant influence of hard skills and soft skills toward satisfaction level.

Keywords: Hard Skills, Soft Skills, Satisfaction Level

1. Introduction

In Indonesia, Government makes a student exchange as a way of learning and one of preparation for the ASEAN Economic Community (AEC) 2015. AEC 2015 is a program for the ASEAN countries in order to improve the quality of the economy, especially the trading is being an easier access such as the abolition of customs duties apply (Free Trade Area) to create a single market. Under an agreement on the hospitality industry signed by ASEAN tourism ministers in 2009, tourism laborers can work in any ASEAN countries from 2015. According to this agreement, citizens holding certificates issued by any tourism certification boards in ASEAN nations are recognized by regional countries and can travel freely among these nations for guest work.

Hospitality schools such as tourism Trisakti Institute of Tourism is expected to play an active role as a school-based tourism superior competence to make the graduates will be easier in regional or abroad.Student exchange becomes one of the prestigious educational quality improvement programs in this current era of globalization, where students in high school or college who is pursuing a college degree are given the opportunity to add some experiences and knowledges in a new environment, both nationally and internationally. This program is created in order to prepare Indonesia young generation faces globalization challenge with

International quality. Student Exchange is expected that the student will be able to broaden the international world. With an interesting project, students can develop soft skills to be ready to jump in the community. In addition, students exchange are also required to be able to improve their knowledge or hard skills and soft skills, where they are judged on their skills when dealing with others. Increasing hard skills are the important answer in a success to get the job. However, it is not enough just hard skills capabilities, but must be balanced with the ability of soft skills in the face of various challenges when performing such work. Superior human resources are those that not only have the hard skills, but an expert in aspects of soft skills as well (Cientist, 2013).

One of the educational institutions in Jakarta, which has been cooperating and has a student student exchange for undergraduate students is Trisakti Institute of Tourism. Trisakti Institute of Tourism is already implementing a joint Bachelor degree program since 2010, among other neighboring countries, such as Malaysia, Singapore and Thailand. Until now, they send students to Burapha University (BUU), Thailand routinely performed each year. The table below is showed about the total of Trisakti Institute of Tourism students who has been sent to Burapha University, Thailand from 2012 – 2014.

Table 1.1 Total Sending Indonesian Student from Trisakti Institute of Tourism to BUU, Thailand

Year	The Total of students to BUU
2012	5 students
2013	15 students
2014	9 students

Source: Trisakti Institute of Tourism, 2015

Based on the above table, this study identified about the BUU lecturers" perception about hard skills and soft skills Indonesian Students. For this purpose following questions are developed to find solutions to know the level of Indonesian Student"s hard skills and soft skills toward lecturer"s satisfaction as follows:

- To determine the level of Indonesian Student"s hard skill and soft skills based on Lecturer in BUU

- To determine out the satisfaction level of Lecturer at BUU towards hard skills and soft skills Indonesian Student

- To explain the correlation between Indonesian Student" hard skill and soft skills toward satisfaction level of Lecturer in BUU

- To investigate the influence between Indonesian Student" hard skill and soft skills toward satisfaction level of Lecturer in BUU

2. Literature Review

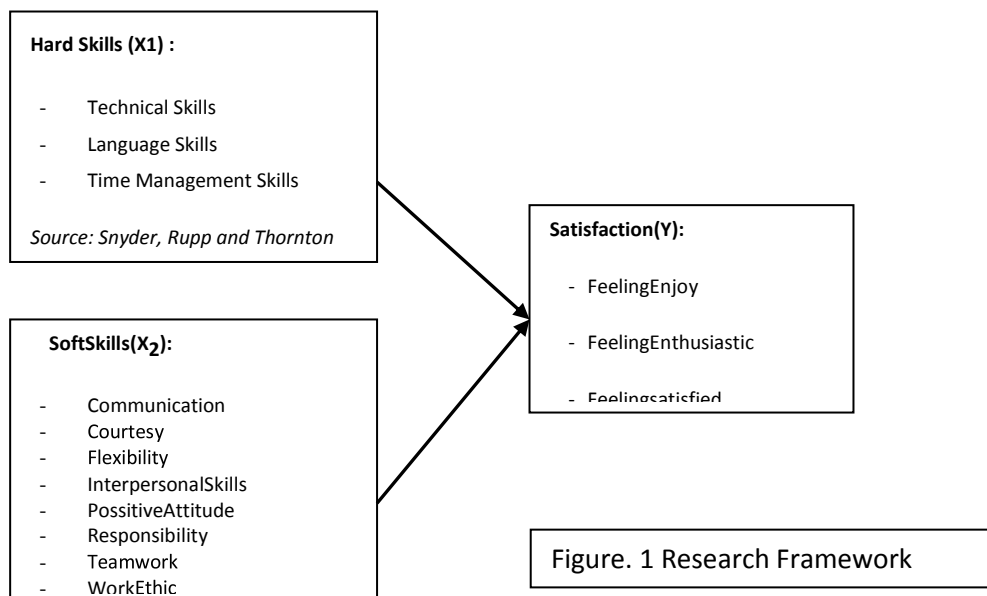2.1 Hard Skills, Soft Skills and Lecturer satisfaction

Another opinion of hard skill comes from Islami (2012) that is stressed that hard skill as a mastery of science, technology, skills and technical skills appropriate to the field of science. In the world of work, "hard skills" are technical or administrative procedures related to an organization"s core business. Example include machine operation, computer protocols, safety standards, financial procedures and sales administration. These skills are typically easy to observe, quantify and measure. Here are kind of hard skills that are needed as a student, such as how is the ability of Indoenesian student to absorb the material in class, how is the proficiency of Indonesian student in foreign language, especially English and how is the knowledge of Indonesian student about online etiquette skill. Hard skills are the technical skills including programming language, operating system skills, networks and communications, foreign language skills, procedure skills, etc (Snyder, Rupp & Thornton, 2006). Some sources mention that people knows technical skills more than hard skills. Another study comes from Ruetzler et al., (2014), they identified seven keys of technical skills, such as Grade Point Average, social networking, time management skills, strategic planning skills, spreadsheet skills and communication (oral and written).

Another study indicated that hard skills contribute only 15% to one''s success, whereas 85% of success is due to soft skills (Watts & Watts, 2008, as cited in John, 2009). Soft skills fulfil an important role in shaping an individual''s personality by completing his or her hard skills. In bringing along additional knowledge and skills, added up by convincing personal traits and habits are their competitive advantage. Therefore, soft skills are one in importance on the job and they need soft skills to complement technical skills. These seven components of soft skills that are to be embedded in the syllabus taught at Institute of Higher Learning, such as, Communication Skills, Critical thinking and problem solving skills, Team work, Lifelong Learning and Information management skills, Entrepreneurship skill, Ethic and professional moral and Leadership skill. Robles (2012) stated that there are ten soft skills attributes such as, communication, courtesy, flexibility, integrity, interpersonal skills, positive attitude, professionalism, responsibility, teamwork and work ethic.

Educators have a special responsibility regarding soft skills, because during students' School and University time they have major impact on the development of their students' soft skills. Besides raising awareness regarding the importance of soft skills and encouraging students to improve their skills, lecturers should actively practice soft skills with their students (Schulz, 2008) . A very effective and efficient way of doing this is to include soft skills training into the teaching of hard skills. As a positive side effect the lessons will become more attractive, which in turn will increase the success rate of learners.

Zhang (2012) stated that IT education must prepare future IT professionals with hard and soft skills to communicate with end users, to resolve conflicts, and to bring different functions together toward a common goal. This study should prove valuable for educators to promote soft-skill training in an active learning environment and to use peer evaluations to achieve success in IT education.   Many authors have measured the satisfaction level based on theory of Judge and Ryan Klinger (2008) on the previous research, three items of satisfaction scale are all about, as follows: Feeling enjoy, Feeling enthusiastic, Feeling satisfied with directly reported satisfaction measurements. At this time, hard skills and soft skills become the factor behind lecturer''s satisfaction.

Hard Skills (X1) :

- Technical Skills
- Language Skills
- Time Management Skills

Source: Snyder, Rupp and Thornton

SoftSkills(X$_2$):

- Communication
- Courtesy
- Flexibility
- InterpersonalSkills
- PossitiveAttitude
- Responsibility
- Teamwork
- WorkEthic

Satisfaction(Y):

- FeelingEnjoy
- FeelingEnthusiastic
- Feelingsatisfied

Figure. 1 Research Framework

3. Methodology

While research methodology is a study in learning the rules contained research. In this study, the population of lecturers in Burapha University, Chonburi, Thailand which is total 47 lectures teach in Hotel and Tourism Management Division. In the process, researcher only get 34 lecturers while 13 lecturers were unreachable and did not reply the questionnaire. Kerlinger and Lee (2000) suggested that rule of thumb is no *less than 50* participants for a correlation or regression. Other researcher suggest minimum 50 respondents but we use only 34 samples because. 34 samples as baseline a framework for developing students for the future and strengthen cooperation with BUU. Data was collected through 34 respondents in 01- 30 July 2015. Every single survey is done by online questionnair, using google sheet and send through e-mail.

The Hard skills questionnaire adopted from Snyder, Rupp and Thornton (2006) and Reutzler et.,al (2014). It consist of 9 questions across the three sub variables of hard skills (technical skills, language skills, time management skills). The questionnaire were adopted from Robles (2012) consist of 16 questions across the 8 sub variables of soft skills (Communication, Courtesy, Flexibility, Interpersonal Skills, Positive Attitude, Responsibility, Teamwork, Work Ethic) and the scale of Satisfactionquestionnaire developed by Judge & Klinger (2008), three sub variables (feeling enjoy, feeling enthusiastic, feeling satisfied) in 8 questionnaire has been utilized. A four point Likert scale from "strongly disagree" to "strongly agree "was used in the collection of data. The tools which deployed in this paper were descriptive statistic (i.e. frequencies, percentages, means) and inferential statistics (i.e. correlations and multiple regression analysis). These statistical analysis are carried out with the standard SPSS software program version 20.

4. Results and Discussions

For the independent variable, especially Hard Skills (HS), it has 9- items on the questionnaire. However, after the data is collected and the validity analysis for this variable is conducted, researcher found that there is 1-items are not valid, since the corrected item-total correlation computed is below the minimum value. According to Guilford"s measurement (1946), that one items" correlation coefficient is categorized as low validity, that is not acceptable for further analysis. Furthermore, the validity analysis is conducted again for the rest 8-items and the result shows that all the 8-items of Hard Skills are valid with value more than 0.3. For Soft Skills" items (SS), there are no deleted items since all sub-variable, 15-items are valid or having value more than 0.3 as well. Satisfaction Level (SA) of Lecturer at Burapha University (BUU) as dependent variable has 8-items and the validity analysis shows that all items are valid with value more than 0.3. Besides determining the validity from corrected item-total correlation,researcher also observes the significant score for each item to ensure the validity of each item. All Results are showing that all items has significant below than 0.05, hence it means that all items are significant and valid.

According to Sekaran (2003), Cronbach"s Alpha more than 0.8 is good reliability. All instrumens in this research are 0,883good reliability. This good result of reliability test shows that this measurement has an internal consistency and these variables have an acceptable value for reliability, hence it could be assumed that the data collected is reliable and can be used for further analysis. The descriptive statistic looking at the mean score was used to examine the overall hard skill and soft skills toward lecturer's satisfaction. The reported respondents' scores are presented in Table 1.2

Table 1.2HardSkillsof IndonesianStudent(X1)

SubVariables	N	Minimum	Maximum	Mean
• IndonesianStudentcan absorbthematerialinthe class	34	3,00	4,00	3,7083
• IndonesianStudenthas no difficultiestodo homework oranyproject	34	2,00	4,00	3,6667
• IndonesianStudent understandsthematerialin classthroughgoodgradeor GPA	34	1,00	4,00	3,5000
• IndonesianStudentcould speakEnglishas InternationalLanguagewell	34	3,00	4,00	3,8750
• IndonesianStudentisa fast learnertolearnThai Languageas newlanguage	34	2,00	4,00	3,2917
• IndonesianStudentknows thepriorityasa studentby collectingtheassignmenton time	34	2,00	4,00	3,5000
• IndonesianStudentalways asksomethinghe/she doesn"tunderstandbefore datelineoftheassignment				
• IndonesianStudenthasa goodpreparationfor presentingassignment(Do somePresentation)	34	3,00	4,00	3,5417
TTL_X(MeanOverall) ValidN(listwise)				
	34	3,00	4,00	3,6667

Source: Result of Primary Data, July 2015

From the output above, researcher got total mean from 8-item of Hard Skills is 3.59, which this score means that the level of hard skills of Indonesian student is very good. From 8-items above, the highest sub variable from hard skills is "Indonesian Student could speak English as International Language well" with score 3.88 and the lowest point from hard skills is "Indonesian Student is a fast learner to learn new language" with 3.29 point, and it is still good. From this observation, language is the most power of Indonesian Student"s hard skill because Indonesian student more active in the class because they understand english well. Overall, in this case, according to Islami (2012) as previous study that one of the strongest hard skills aspect is profiency of Indonesian student in foreign language. While from this observation, language skills is the highest point of hard skills" Indonesian Students is good and very good based on lecturer at BUU side.

Table 1.3 SoftSkillsof IndonesianStudent (X2)

SubVariables	N	Minimum	Maximum	Mean
• Indonesian Student has no difficulties to communicate with other people in using English	34	3,00	4,00	3,8750
• Indonesian Student is polite to lecturer, staff and friends in college through saying "Please" and "Thank you"	34	3,00	4,00	3,9167
• Indonesian Student always respect everyone and never do something bad, such as harassment, say bad words, etc	34	3,00	4,00	3,6667
• Indonesian Student is open minded to accept new things, such as new culture during staying in Thailand	34	3,00	4,00	3,7500
• Indonesian Student has good self-control	34	3,00	4,00	3,5417
• Indonesian Student seems like happy everyday	34	3,00	4,00	3,5833
• Indonesian Student has good confidence when talking, presenting and discussing	34	3,00	4,00	3,7083
• Indonesian Student has good leadership	34	3,00	4,00	3,4583
• Indonesian Student always gets job done, such as assignment and project	34	3,00	4,00	3,7917
• Indonesian Student always give the best when doing assignment and project	34	3,00	4,00	3,7083
• Indonesian Student very helpful in the class	34	3,00	4,00	3,5417
• Indonesian Student gets along with other student	34	3,00	4,00	3,4583
• Indonesian Student always comes on time to the class	34	3,00	4,0	3,2917
• Indonesian Student always attend the class	34	3,00	4,00	3,7917
• Indonesian Student has good initiative in the class through discussing with lecturer and another student	34	3,00	4,0	3,666
TOTAL X2	34	45,00	60,00	54,7500
Valid N (listwise)				

Source: Result of Primary Data, July 2015

From the output above, researcher got total mean from 15-item of Soft Skills is 3.65 or very good. From 15-item above, the highest sub variable from soft skills is "Indonesian Student is polite to lecturer, staff and friends in college through saying "please" and "thank you" with score 3.92 and the lowest point from soft skills is "Indonesian Student has good leadership" with 3.46 point. Even that point is the lowest, but 3.46 is very good. Indonesian student is very communicative to everyone, lecturers, staff and friends. Besides that, while working in a group, most of them lead the group to do the best for the project. Moreover, this explanation is supported by previous study, according to Sherlita et al., (2011), soft skills are focused in problem solving and communication ability.

Table 1.4 Satisfaction level of lecturer at BUU (Y)

	N	Minimum	Maximum	Mean
• I findrealenjoymentin teachingIndonesianStudent	34	3,00	4,00	3,8750
• TheIndonesianStudentsare verycourteous	34	3,00	4,00	3,7500
• MostdaysI amenthusiastic aboutIndonesianStudent	34	3,00	4,00	3,7083
• I alwayswait forthe next batchofIndonesianStudent to studyin myclassor BUU	34	3,00	4,00	3,6667
• I hopethatI have IndonesianStudentinevery myclass	34	2,00	4,00	3,6667
• Ingenerally,I satisfywith HardSkillsofIndonesian Student	34	3,00	4,00	3,6667
• Ingenerally,I satisfywith SoftSkillsofIndonesian Student	34	1,00	4,00	3,4583
• Overall,I satisfywith IndonesianStudent	34	3,00	4,00	3,6667
TTL_Y	34	24,00	32,00	29,4583
ValidN(listwise)	34			

Source:ResultofPrimaryData,July2015

Pearson Product – Moment Correlation aims to know the relationship between one variable with another. Table 1.5 shows the correlation between hard skills and soft skills with satisfaction level. there is a possitive relationship between these variables. Correlation coefficient, r = .610, high relationship, with significant value is .002 that is less than 0.05, which shows that there is significant relationship between hard skills and satisfaction level. Another variables, soft skills and satisfaction level also show high relationship with correlation coefficient, r = .720 and significant value is .000. With possitive relationship, it could be assumed that when student performance is high, then satisfaction level will be high also and vice versa. According to Khameneh (2014), that were found there is a relationship between communication skill for manager and employee's satisfaction. At this time, since students and lecturer's also similar with employee and manager. In this reseach found that skills are related to satisfaction level, through this observation skills of Indonesian Student are related to lecturer satisfaction.

Table 1.5 Correlation Anaylysis between Hard Skills, Soft Skills and Satisfaction Level

		TTL_X	TTL_X2	TTL_Y
	PearsonCorrelation	1	,720[**]	,610[**]
TTL_X	Sig.(2-tailed)	34	,000	,002
	N	34	34	34
	PearsonCorrelation	,720[**]	1	,754[**]
TTL_X2	Sig.(2-tailed)	,000		,000
	N	34	34	34
	PearsonCorrelation	,610[**]	,754[**]	34
TTL_Y	Sig.(2-tailed)	,002	,000	1
	N	34	34	34

**. Correlationissignificantatthe0.01level(2-tailed)

Source:ResultofPrimaryData,July2015.

Other side based on Coefficient of Determination (R-squared) is aiming to know the influence percentation between independent variable towards dependent variable. The result of R-squared can be seen at table below.

Table 1.6 Coefficient of Determination Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,760a	,578	,538	2,04383

a. Predictors: (Constant), TTL_X2, TTL_X

Source:ResultofPrimaryData,July2015

Table above shows that the model of this analysis has achieved the adjusted R-Squared of .538. This means 53.8% of variance in satisfaction level is explained by hard skills and soft skills while the other 46.2% is influenced by other factors that is not included in this research. Those factors could be the demographic factor, personal factor, pull factor or even the variables of push factor itself such as organizational factors (organizational justice, benefits, etc.), attitude factors (job satisfaction and job stress), organizational commitment (Shah *et al*., 2010:169) and level of life satisfaction like overtime, marriage, etc (Lucas & Dyrenforth, 2005).

To test the hypothesis, researcher used F-test by comparing the F- value. The F-value for this study is also attained from the multiple regression analysis and conducted through computer program SPSS Statistic version 20. Below table will shows F-value calculated for this relationship. F-valueforthisstudyis14.392with2and31degreeoffreedom, thentheF-criticalvalueattained fromtheF-tableis2.9113. Thecomparison resultsthatF-statistic isgreaterthanF-criticalvalue,14.392>2.9113.This resultsmeanthatnullhypothesisisrejectedandthealternativehypothesisis accepted.

Table 1.7 F Test

ANOVAa

Model		SumofSquares	df	MeanSquare	F	Sig.
	Regression	120,236	2	60,118	14,392	,000[b]
1	Residual	87,722	31	4,177		
	Total	207,958 33				

a. DependentVariable:TTL_Y

b. Predictors:(Constant),TTL_X2,TTL_X

Source: Result of Primary Data, July 2015

5. Conclusion and Recommendation

Thisresearchstudiesaboutthesatisfaction leveloflecturerat BuraphaUniversitytowardshardskillsandsoftskills" Indonesian studentfromTrisaktiInstituteofTourism,whichhassentmore thanthreegroupsinthreeyears.Totallecturers whoisrequestedtosupport thisobservation are34peoplefrom47lecturersatBuraphaUniversity.RespondentsarelecturerswhohastaughtIndonesian Studentat leastonesemester. The result of this observation have achieved the objectives developedinthisresearchandresearchercanbeconcluded,asfollows:

1 TheLevelofIndonesianStudent"sHardSkillsbasedonLecturerin BUU

Theresultshowsthatoverall,meanof hardskills3.59point whichismeanvery good.Thehighestpointforhardskillsaspectwith score3.88is"IndonesianStudentcouldspeakEnglishasInternational Languagewell"andthelowestaspectwithscore3.29is"Indonesian Studentis afastlearnertolearnnewlanguage".

2. TheLevelofIndonesianStudent"sSoftSkillsbasedonLecturerin BUU

Fromtheresultthelevelofsoftskills"Indonesian Studentisalsovery goodwithmean3.65.Thehighestpointforsoftskillsaspectwithscore 3.92is"Indonesian Studentispolitetolecturer,staffandfriendsin collegethroughsaying"please"and"thankyou"andthelowestaspect is"IndonesianStudenthasgoodleadership"withscore3.46.

3. TheLevelofSatisfactionleveloflectureratBUUtowardshardskills andsoftskillsIndonesianStudent. Overall,lecturersatBUUareverysatisfiedwithIndonesian student withscore3.68.Themostaspectthatisshowed intheresultisLecturer atBUUisfeelingenjoyinteachingIndonesian Studentandthey becomeoneof lovelystudent.

4. CorrelationbetweenHardSkillsandSoftSkillstowardSatisfaction Level

Theresultshowsthatthereispossitive relationship betweenhardskills, softskillsandsatisfaction level.Thispossitiverelationship canbe assumedthatwhensatisfaction levelisimproved,thenhardskillsand softskillswillalsoimprovedorhighandviceversa.

5. TheInfluencebetweenHardSkillsandSoftSkillstowardSatisfaction Level

Furthermore, besideshavingpossitiverelationship, hardskillsandsoft skillsisalsofoundtohavepositiveinfluenceon satisfaction level.It mean that by increasing the hard skills and soft skills Indonesian student, lecturerwillbemorefeelingsatisfied towardtheirIndonesian

Students.Thisfindingcouldbeusefulforbothuniversity tokeepthe agreement insendingeitherstudentexchangeordoubledegreestudent. Eventhoughtherelationship andtheinfluencearebothsignificant, adjustedR-squaredshowedthattheinfluence given byhardskillsand softskillstoward satisfactionlevelcounted53.8%. Thisnumberisquite bigasoneof satisfactionlevelforlecturertowardtheirstudent.

Regarding above conclusion from calculation by SPSS of observation andquestionnaire survey,studentperformanceisoneofaspect to measuresatisfactionlevel of lecturer, even though the result of R-squaredorthepercentageofinfluenceforbothvariablesstatedthatthereis 46.2% for another aspects. Moreover,based on mean analysis of satisfactionleveloflecturertowardhardskillsandsoftskillsarevery satisfy andverygood.ResearchercanconcludethatLecturersatBurapha UniversityarefeelingsatisfiedtoteachIndonesian StudentandhardskillsandsoftskillsofIndonesianstudentarebecoming oneof theiraspecttofeelsatisfied.

Researcherhassomerecommendations forbothIndonesianStudent andTrisaktiInstituteofTourism. BeforesendingIndonesianstudentto Burapha University, Trisakti Institute of Toursim should consideratethestudent‟shardskillsand softskills,suchas student‟s abilitythroughGPAandsomeachievementduringstudyinginJakarta, goodpersonality andbehaviorandgoodknowlegdetopromoteIndonesia throughperformance. IndonesianStudentshouldkeepimpressingLecturer with many ways, like respecting Thai's cultures, adapting with Thai's cultures,showingIndonesianstudent's spiritandpassionduringlearning process,moreactiveandcreative,alsobringimpressive Indonesian culture tothem.Fornextresearch, researchercouldbroadentheunitofanalysisby including lecturer at Burapha University since Master Degree student studiedthere.Besidesthat,bynextresearchcouldalsoincludeotheraspects ofsatisfactionlevel,notonlyhardskillsandsoftskillsfromthestudent,but alsoforexampleorganizational factor,organizational commitmentandlife satisfactionasadditionalsatisfactionlevel‟saspect.

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Aggregate Liquidity for the Malaysian Stock Market: New Measure and Time-Series Behaviour

Ping-Xin Liew, Kian-Ping Lim and Kim-Leng Goh

Abstract

This study computes the level of liquidity, using a recently proposed order-based low frequency proxy, for all publicly listed firms on Bursa Malaysia over the sample period from 2000 to 2014. The firm-level monthly liquidity values are then aggregated using equal- and value-weighted schemes to track the level of market liquidity for the whole Malaysian stock exchange over time. The time-series behaviour of this newly constructed aggregate market liquidity measure is further tested, along with trading activity, for the existence of trend and seasonality. Our empirical results show that turnover ratio and "Closing Percent Quoted Spread" decline over time albeit at a marginal pace, largely driven by large-capitalization stocks. In terms of seasonality, trading activity is generally less active in the second half of the year with July the exception month. Liquidity is found to be lower, on average, among large-capitalization stocks in December. The findings from correlation analysis provide evidence in the Malaysian context that the turnover ratio, which is widely used by local policymakers, is a poor indicator of liquidity.

Keywords: Market Liquidity; Aggregate Liquidity; Trend; Seasonality; Stock Market; Malaysia.

1. Introduction

The term "liquidity" has attracted growing attention from policymakers and investors due to its importance in ensuring the functioning of the economy as well as financial markets. Given that it is a multifaceted concept that carries several different meanings, this paper specifies at the outset that its key objective is to explore the liquidity of the Malaysian stock market which embodies the aspects of immediacy, breadth, depth and resiliency in the market. Until today, scholars have yet to come to any consensus on the best liquidity measure due to its multifaceted nature. Liquidity measures can be broadly categorized into trade-based and order-based measures. While trade-based liquidity measures such as trading volume and share turnover are popular indicators of liquidity due to their ease of computation, they fail to account for trading costs or the price impact of transactions (Aitken and Comerton-Forde, 2003; Lesmond, 2005; Barinov, 2014). This weakness is addressed by the order-based liquidity proxies which can be further divided into two groups. The first group is the "percent-cost" liquidity proxies which captures the transaction cost required to execute a small trade and the second set, the "cost-per-volume" liquidity proxies, aims to measure marginal transaction costs per currency unit of volume.

Malaysia is an emerging economy characterized by lower level of liquidity in the financial market and this poses a major risk to investment return and a barrier to further growth in foreign portfolio investment (Lesmond, 2005). In view of this, policymakers in Malaysia have been putting in place various initiatives to enhance trading environment in the local bourse (Securities Commission, 2011) yet very few studies have been conducted on the liquidity of Malaysian stocks. Studies on the liquidity of Malaysian stock market conducted by Hameed and Ting (2000), Rahim and Nor (2006), Foo and Mat Zain (2010), Ramlee and Ali (2012), Sapian, Rahim and Yong (2013) and Azevedo, Karim, Gregorious and Rhodes (2014) are among the limited published studies available. It is worth highlighting that only three studies utilize the order-based liquidity proxies while the remaining three are merely measuring trading activity. The limited empirical studies on the liquidity of

Malaysian stock market deprive policymakers of useful policy input, since little is known about how, when and why Malaysian stocks become more liquid.

The wide usage of trade-based liquidity indicators is not only seen in the literature but also in the Malaysian policy circles. The Malaysian authorities generally define liquidity in terms of trading activity such as trading volume and turnover which suggest a narrow interpretation of liquidity that is not reflective of the transaction costs and price impact facing investors. Without an accurate measure of liquidity, there is a possibility of ineffective policy prescription due to incorrect diagnosis of the state of liquidity for Malaysian stocks or the aggregate stock market. To provide useful input to policymakers, corporations and investors, the main objective of this study is to address the fundamental question of how liquidity is measured by constructing liquidity indicator that reflect transaction costs and the price impact facing investors.

The standard approach in assessing the efficacy of a daily or monthly (low frequency) liquidity proxy is to examine its correlation with the intraday (high-frequency) bid-ask spread benchmark. In the context of Malaysia, the extensive analyses from Fong et al. (2014) lay the foundation for future liquidity work on the local stock market. The horserace by Fong et al. (2014) shows that, in the category of percent-cost, the best performing monthly liquidity proxy for Malaysian stocks is the "Closing Percent Quoted Spread" from Chung and Zhang (2014), outperforming its closest competitor by a large margin in the dimensions of average cross-sectional correlation and portfolio time-series correlation. For cost-per-volume proxies, the price impact version of monthly "Closing Percent Quoted Spread" again emerges as the best performer. The "Closing Percent Quoted Spread" maintains its strong performance in both categories at the daily frequency. Despite being a new proxy, the excellent performance of "Closing Percent Quoted Spread" warrants its application on stock liquidity, which has hitherto not been done for most stock markets around the world, Malaysia included.

Motivated by the lack of Malaysian liquidity studies and the recent discovery of a best-performing liquidity proxy, the first objective of this study is to construct the "Closing Percent Quoted Spread". In this exercise, the "Closing Percent Quoted Spread" is constructed for all publicly listed companies on Bursa Malaysia for the sample period from 2000 to 2014. Given the growing empirical evidence that market-wide liquidity movements are better predictor of stock market returns (Amihud, 2002; Jones, 2002) and the real economy (Næs et al., 2011), the liquidity for individual stocks are then aggregated using equal- and value-weighted schemes so as to provide monthly liquidity indicator for the whole Malaysian stock market. Despite its predictive power, the time series properties of stock liquidity have received relatively less attention and are largely confined to the U.S. market. In contrast, there is a huge literature exploring the time trends of aggregate idiosyncratic volatility (see Xu and Malkiel, 2003; Cao, Simin and Zhao, 2008; Brandt et al., 2009; Bekaert et al., 2012). Therefore, this study further explores the time series behavior of the newly constructed aggregate liquidity indicator specifically in terms of the presence of trend and seasonality.

The rest of the paper is organized as follows. Section two provides extensive review of the liquidity literature so as to identify the research gaps in previous studies. Data and research methodology used in this study are explained in Section three. The empirical results are presented and discussed in Section four while Section five concludes the study and recommends potential future research work.

2. Literature Review

The standard asset pricing theories such as Arrow and Debreu's complete-markets model and the Capital Asset Pricing Model (CAPM) which was first introduced by Harry Markowitz and further developed by Jack Treynor, William Sharpe, John Lintner and Jan Mossin are based on the assumption of perfectly liquid markets where agents are able to trade security at all times with no cost and take prices as given (Amihud et al., 2006). However, these assumptions generally do not hold in reality due to the presence of market imperfections such as exogenous transaction cost (Demsetz, 1968; Constantinides, 1986; Amihud and Mendelson, 1986; Huang, 2003; Acharya and Pedersen, 2005), inventory risk facing market makers (Amihud and Mendelson, 1980; Ho and Stoll, 1981; Brunnermeier and Pedersen, 2005), information asymmetry (Copeland and Galai, 1983; Glosten and Milgrom, 1985; Kyle, 1985; Treynor, 1995) and search friction (Amihud et al., 2006; Duffie et al., 2005; Vayanos and Wang, 2007; Weill, 2008).

Browsing through the stock liquidity literature, there are overwhelming number of studies examining factors that contribute to higher liquidity and those exploring the capital market effects of stock liquidity. As an independent variable, stock market liquidity affects stock returns (Amihud, 2002; Pastor and Stambaugh, 2003; Baker and Stein, 2004; Acharya and Pederson, 2005; Bekaert et al., 2007; Salehi et al., 2011), managerial payout decisions (Brockman et al., 2008), firm value (Amihud and Mendelson, 2008; Fang et al., 2009), dividend payout policy (Banerjee et al., 2007) and corporate governance (Maug, 1998; Back et al., 2013; Roosenboom et al., 2013).

It is well established that liquidity in the emerging markets is relatively lower than that in the developed markets but empirical evidences suggest that trading costs in the emerging markets have decreased at least since the early 1990s (Jun et al., 2003; Lesmond, 2005; Bekaert et al., 2007). In Malaysia, only a handful of literatures were found to study liquidity exclusively in Malaysia. Hameed and Ting (2000) use a sample of 663 security traded on Bursa over the period 1977 to 1996 to investigate the short-term predictability of returns by trading volume using a contrarian investment portfolio methodology. They find that the strategy yields significant trading profit and conclude that contrarian profits are positively associated with level of trading activity. Rahim and Nor (2006) compare the performances of the conventional Fama-French three-factor model and their augmented liquidity-based three-factor models using 230 – 480 stocks listed on Bursa with the period 1987 – 2000 as the initiation set and 2001 – 2004 as the test set. The authors replace Fama-French's value component with liquidity component measured mainly by turnover ratio and observe that predictability of returns on stocks traded on the local bourse can be marginally improved by accounting for illiquidity risk in the three-factor model.

Foo and Mat Zain (2010) explore the relationship between corporate governance and liquidity in Malaysia using order-based low-frequency liquidity proxies. Using 481 stocks listed on Bursa Malaysia, the authors conclude that companies that are characterized by higher board independence and diligence tend to have higher level of liquidity. Meanwhile, Ramlee and Ali (2012) examine whether liquidity explains long-term return of IPO and the role of government shareholdings on the relationship between the two variables. Their sample includes 283 IPO stocks listed on Main Board and Second Board of Bursa spanning the period from 1998 to 2008. They conclude that only the average monthly turnover ratio explains long-term IPO returns while the involvement of government in the IPO positively moderates the interaction between the two variables. Sapian et al. (2013) perform another IPO-related liquidity study in Malaysia, exploring the impact of underpricing of 191 IPOs on their aftermarket liquidity for the period from June 2003 to December 2008. The authors discover that issuers' decision to underprice their IPOs is effective in boosting their liquidity in the secondary market. They also highlight that stock market liquidity is relative less liquid in 2004, 2005 and 2008 compared to 2003 with the latter being the outcome of the sub-prime crisis in the US.

Lastly, Azevedo et al. (2014) explore the effects of index revision of the KLCI on stock price and volume over the time period of 2005 to 2012. The authors controlled for changes in trading volume due to changes in liquidity proxied by quoted spread, effective spread and depth of the Malaysian Ringgit (MYR). They show that liquidity changes significantly following the announcement of stock addition as market makers increase the bid-ask spreads as a result of the news, causing trading volume and stock prices to revert to their original level prior to the index composition due to higher trading costs. On the other hand, deletion of a stock from the index has insignificant effect on liquidity for trades occurring within the bid-ask quote hence stock price and trading volume return to their levels before the index revision occurs.

3. Data and Research Methodology

3.1 Sample selection

The sample for this study covers all publicly listed firms in Malaysia over the period from January 2000 to December 2014. The proposed liquidity indicator is first constructed on a daily basis based on data sourced solely from Thomson Reuters Datastream before it is aggregated and consolidated into monthly market index for the purpose of examining the time series properties of liquidity of Malaysian stocks. Besides "Closing Percent Quoted Spread", the turnover ratio defined as the fraction of total value of shares traded to total value of shares outstanding is also included in this section. This is because the popularity of turnover ratio among researchers and regulatory authorities in Malaysia as a liquidity proxy warrants examination on its efficacy in capturing the cost and immediacy of equity trading. Data required for the computation of the proposed liquidity proxy and the

turnover ratio include closing bid price, closing ask price, trading volume, number of share outstanding and market capitalization.

Two filters are introduced to ensure the reliability and consistency of liquidity proxy constructed in this study. First, in order to address the concerns of data entry errors in Datastream and the presence of outliers, the estimated daily liquidity proxy and the turnover ratio are winsorized at the 1 and 99 percentile levels where values above the 99th percentile are replaced with the 99th percentile value and values below the 1st percentile are replaced with the 1st percentile value. Second, a stock is required to have at least 11 non-zero daily liquidity estimates in a month to produce a monthly liquidity estimate which is obtained by taking the simple average of all daily observations in the month. If a stock does not have sufficient daily observations in a month, reading for the particular month will be treated as missing value. These two filters are imposed in line with the work of Fong et al. (2014).

3.2 Measurements for stock liquidity

The "Closing Percent Quoted Spread" is developed by Chung and Zhang (2014). The liquidity horserace by Fong et al. (2014) is the only survey that assesses the performance of the "Closing Percent Quoted Spread" for a simple reason that the indicator was not available prior to 2014. In the context of Malaysia, the "Closing Percent Quoted Spread" is found to be the best performing monthly liquidity proxy for the Malaysian stock market which outperforms other percent-cost proxies in the dimensions of average cross-sectional correlation and portfolio time-series correlation. Table 1 illustrates the performance of monthly "Closing Percent Quoted Spread", "High-Low" and "FHT", the top three percent-cost proxies identified by Fong et al. (2014) in the Malaysian stock market.

Table 1. Performance of selected monthly percent-cost proxies in Malaysia

Performance Measures	CPQS	High-Low	FHT
Average Cross-Sectional Correlation	0.8580	0.5110	0.5450
Portfolio Time-Series Correlation	0.9700	0.7840	0.8380
Average Root Mean Squared Error	0.0133	0.0127	0.0160

Note: CPQS denotes "Closing Percent Quoted Spread". FHT is a new percent-cost liquidity measure introduced in Fong et al. (2014). For average cross-sectional correlation and portfolio time-series correlation, higher readings denote better performance while for average root mean squared error, lower reading is preferred.

The "Closing Percent Quoted Spread" is also appealing due to its ease of computation using only closing bid and ask prices. The "Closing Percent Quoted Spread" is computed as the daily ratio of the difference of ask and bid prices to the mid-point of these price. The liquidity for stock i on day t can be written as:

$$Closing\ Percent\ Quoted\ Spread_{i,t} = \frac{Closing\ Ask_{i,t} - Closing\ Bid_{i,t}}{(Closing\ Ask_{i,t} + Closing\ Bid_{i,t})/2} \qquad (1)$$

where $Closing\ Ask_{i,t}$ and $Closing\ Bid_{i,t}$ are the closing ask and bid price of stock i on day t respectively. A higher "Closing Percent Quoted Spread" reading is associated with greater illiquidity as a wider spread means that investors have to incur higher trading costs.

3.3 Aggregate market liquidity indicator

The common practice in aggregating firm-level data involves assigning weights to individual observations. Two frequently used weighting methods in the finance literature include equal-weighting which assigns the same weight to each stock in a portfolio or index and market value-weighting where individual stock is weighted according to its market capitalization, defined as the total market value of its outstanding shares. The use of equal-weighting method is popular in the liquidity literature as evidenced by the work of Lesmond et al. (1999), Chordia et al. (2001), Jones (2002), Lesmond (2005), Goyenko et al. (2009), Holden (2009), Hameed et al. (2010) and Fong et al. (2014) while scholars in the idiosyncratic volatility area favor the use of market value-weighting method (Angelidis, 2010; Brandt et al., 2009; Bekaert et al., 2012; Kang et al., 2014). A number of studies on idiosyncratic volatility of stocks reviewed such as the works of Brockman and Yan (2006), Guo and Savickas (2008), Eiling and Gerard (2014), and Tan and Galagedera (2015) use both methods in assessing firm-specific volatility at the market level.

It is worth noting that equally-weighted aggregate daily liquidity measure tends to be influenced by potentially higher spreads and illiquidity associated with stocks that are not traded frequently whilst for value-weighted aggregate daily liquidity measure, stocks that have higher trading frequency (usually stocks with large market capitalization) will be given more emphasis than stocks that are infrequently traded. This study will employ both weighting methods in computing the market liquidity indicator.

3.4 Trend and seasonality analyses

Previous studies that examine the existence of trend in stock liquidity generally employ the use of graphs (Chordia et al., 2001) or computations of averages over the sample period to discern an increase or a drop in the cost of trading over time (Jones, 2002). Apart from these primary examinations which are mainly observation-based, this study will employ linear regression modelling to statistically test for the presence of time trend and seasonality in trading activity, proxied by the turnover ratio and liquidity in Malaysian stocks.

The linear regression model can be expressed as

$$Liq_t = \beta_0 + \beta_1 time_t + \beta_2 Feb_t + \beta_3 Mar_t + \beta_4 Apr_t + \beta_5 May_t + \beta_6 Jun_t + \beta_7 Jul_t + \beta_8 Aug_t + \beta_9 Sep_t + \beta_{10} Oct_t + \beta_{11} Nov_t + \beta_{12} Dec_t + \varepsilon_t \qquad (2)$$

where Liq_t denotes liquidity proxy for month t, $time$ denotes time dummy beginning with 1 (January 2000) and ending with 180 (December 2014), Feb, Mar to Dec are the dummy variables for February, March to December. The OLS regression above will be estimated using heteroskedasticity- and autocorrelation-consistent (HAC) options proposed by Newey and West (1987) and Andrews (1991) to obtain standard errors that are robust to serial correlation and heteroskedasticity problems present in the residuals. The presence of trend can be identified by checking the significance of β_1 while month-of-the-year effect can be examined by checking the significance of β_2 up to β_{12}. Note that dummy for the month of January is excluded to avoid the dummy variable trap and hence coefficients for the month of February to December are benchmarked against the month of January.

4. Empirical Analysis and Results

4.1 Descriptive statistics

Table 2 presents descriptive statistics for the proposed liquidity indicator in this study as well as the turnover ratio. The table is divided into two panels with the top panel displaying statistics for equally-weighted "Closing Percent Quoted Spread" and turnover ratio while the bottom panel showing statistics for market value-weighted aggregate "Closing Percent Quoted Spread" and turnover ratio. Going by indicator, it is observed that the equally-weighted turnover ratio (hereafter referred to as $Turnover_{EW}$) has a higher mean of 0.2934 compared to the market value-weighted turnover ratio (hereafter referred to as $Turnover_{VW}$) which recorded a mean of 0.2053. With a wider range of 1.2037, $Turnover_{EW}$ is also more volatile with a standard deviation of 0.1720 compared to a reading of 0.1194 registered by $Turnover_{VW}$ which has a narrower range of 0.7663.

Higher readings of turnover ratio indicate that shares are traded more frequently. In this case, higher mean readings of $Turnover_{EW}$ can be interpreted as small-cap stocks, on average, change hands more frequently relative to large-cap stocks.

Table 2. Descriptive statistics for market liquidity

Indicators	Min	Median	Max	Mean	Standard Deviation	Skewness	Kurtosis
Equal-Weighted (EW)							
Turnover	0.0659	0.2524	1.2696	0.2934	0.1720	1.7667	8.4697
CPQS	0.0160	0.0433	0.1665	0.0499	0.0282	2.1052	8.1419
Value-Weighted (VW)							
Turnover	0.0870	0.1670	0.8534	0.2053	0.1194	2.2572	9.8669
CPQS	0.0055	0.0104	0.0245	0.0106	0.0038	0.7834	3.3706

While this discovery contradicts with the well-established finding of a positive relationship between firm size and trading volume (Roll, 1981; James and Edmister, 1983), several works that are published more recently are able to lend support to our results. Rouwenhorst (1999) who studies the drivers of stock returns and turnover in the emerging markets finds that stocks with high beta, small market capitalization, and high historical medium-term return have higher average turnover than their counterparts characterized by low beta, high market value and low historical medium-term return. However, the author also warns that his finding of negative relationship between firm size and turnover might be the outcome of sampling bias as a small stock needs to have higher turnover than a large stock to be included in the sample. On the other hand, Chordia et al. (2011) who study trends in trading activity and market quality in the US over the sample period 1993 to 2008 show no evidence that firm size plays a role in the turnover ratio of a stock.

The phenomenon observed in our study can also be explained by the general purpose of investing in small-cap stocks for their higher growth potential compared to stocks with larger market capitalization. It is widely acknowledged that large firms do not expand as fast as small firms and investors generally invest in large-cap stocks for their steady dividend payout. Therefore, the potential for capital gain in large-cap stocks is somewhat limited and hence investors commonly adopt a buy-and-hold strategy when it comes to large stocks, resulting in lower trading activity. On the contrary, small-cap stocks which have relatively higher growth potential tend to offer investors with capital gains (Fama and French, 2001) and therefore are likely to see investors cashing out their paper profits, leading to higher trading activities compared to large-cap stocks.

Moving to the liquidity indicator, it is observed that the statistics of the equally-weighted "Closing Percent Quoted Spread" (hereafter referred to as $CPQS_{EW}$) has higher values relative to the market value-weighted "Closing Percent Quoted Spread" (hereafter referred to as $CPQS_{VW}$). Over the period from January 2000 to December 2014, $CPQS_{EW}$ averaged 0.0499 with a maximum value of 0.1665 while $CPQS_{VW}$ registered lower mean and maximum readings of 0.0106 and 0.0245 respectively. In terms of dispersion, $CPQS_{EW}$ has a higher standard deviation of 0.0282 compared to just 0.0038 seen for $CPQS_{VW}$. Interpreting observations from the percent-cost category is straightforward as it is well documented that small-cap stocks have higher trading costs and illiquidity risk (Amihud, 2002; Pastor and Stambaugh, 2003), mainly due to a higher degree of information asymmetry (Glosten and Milgrom, 1985) compared to large-cap stocks whose information are more widely available to the public and are usually covered by financial analysts which help increases dissemination of information (Chung et al., 1995; Roulstone, 2003).

4.2 Correlation analysis

A standard way of assessing whether a liquidity proxy constructed from daily data is able to accurately represent liquidity of a stock is through examination of its correlation with a liquidity benchmark, usually computed based on high-frequency intraday data (Goyenko et al., 2009; Fong et al., 2014). Due to limitation of computing power and availability of data, this study will perform correlation analysis on the proposed low-frequency liquidity measure and the turnover ratio. Figure 1 exhibits two scatter plots of the "Closing Percent Quoted Spread" and turnover ratio. The left graph plots $Turnover_{EW}$ and $CPQS_{EW}$ while the right graph plots market value-weighted $Turnover_{VW}$ and $CPQS_{VW}$.

The relationship between turnover and liquidity proxy proposed in this study is hypothesized to be negative as higher reading of liquidity proxies which signal greater degree of illiquidity should discourage trading activity, leading to lower turnover. Figure 1 (a) shows that the turnover ratio is negative correlated to "Closing Percent Quoted Spread" which is consistent with the hypothesis. However, an inspection of Figure 1 (b) indicates otherwise as it suggests a weak positive relationship between the liquidity measure and turnover. Our finding in the market value-weighted segment concurred with that of Lesmond's (2005) who find a lack of correlation between turnover and the bid-ask spread as the correlation coefficient between $Turnover_{VW}$ and $CPQS_{VW}$ is only 8.32%. This inconsistent relationships between turnover ratio and "Closing Percent Quoted Spread" highlights that the turnover ratio is a poor measure of liquidity as stressed by scholars such as Aitken and Comerton-Forde (2003) and highlighted the need for the policy makers in Malaysia to adopt a proper liquidity measure.

4.3 Trend and seasonality analyses

At the market level, it is observed from Table 3 that the time dummies for turnover ratio and the proposed liquidity proxy aggregated using the equal-weighting method are not significant. Meanwhile, time dummies for market value-weighted turnover ratio and "Closing Percent Quoted Spread" show evidence of a decreasing trend in trading activity and an increasing trend in liquidity (lower liquidity proxy reading signifies lower trading costs and hence higher liquidity) over the sample period. Note that the coefficients for time dummies are small, -0.00005 for $CPQS_{VW}$ and -0.0009 for $Turnover_{VW}$. Modest time trend coefficients, particularly seen in $CPQS_{VW}$, are primarily due to the nature of the proxy where readings are generally small with tight range of 0.019.
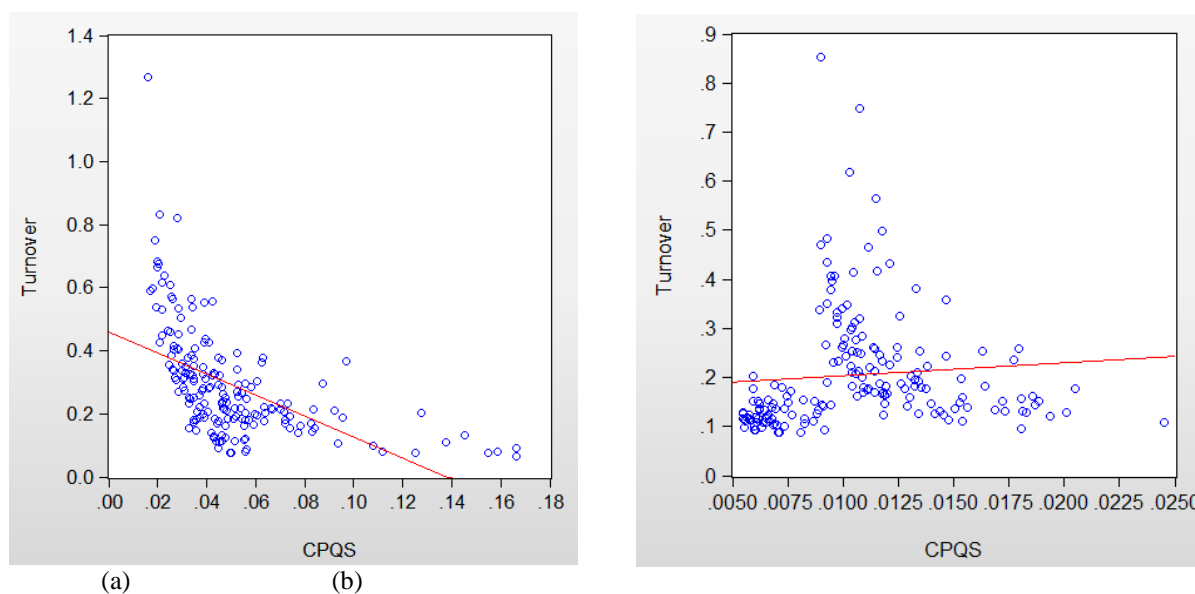

(a)   (b)

Fig. 1. Scatter Plot of "Closing Percent Quoted Spread" and turnover ratio. (a) Equal-weighted; (b) Market value-weighted.

The differences in significance of time trend in the equal- and market value-weighting classes lead to an inference that trend in trading activity and liquidity in the Malaysian stock market is mainly driven by large stocks which has higher weightings in the market value-aggregated liquidity proxies. The trend in trading activity observed in this section concur with finding presented in Section 4.1 where mean of the market value-weighted turnover ratio of which large-cap stocks are emphasized is lower than mean of the equally-weighted turnover ratio of which small-cap stocks are emphasized.

In terms of seasonality in trading activity, the month-of-the-year dummies for June, August, September, October and December are significantly negative in the regression using $Turnover_{EW}$ whereas for regression using $Turnover_{VW}$, an additional month-of-the-year dummy, November is significant with a negative reading. This implies that trading activities are lower in most of the months in the second half of the year, with the exception of July, compared to the benchmark month January which is also of statistical significance. The decline in trading activity during the months of June, September, November and December can be explained by the Malaysia school holiday effect where most traders are away from their desks during the breaks and hence result in fewer trades being placed and executed.

Moving on to seasonality in liquidity, regression using $CPQS_{EW}$ as the dependent variable suggests the presence of only the January effect whereas when $CPQS_{VW}$ is the dependent variable, the benchmark month and December dummy are statistically significant at the 1% and 5% levels respectively. Higher reading for the December dummy compared to the intercept indicates that the market is less liquid at the end of the year as compared to the beginning of the year, probably attributable to greater search friction in the trading of securities given that most market players are away for the year-end holiday. As the December effect is significant only in the market value-weighted regime, it is therefore reckoned that lower liquidity in the month is mainly sourced from stocks with larger market capitalization.

5. Conclusion

As exchange regulators in Malaysia strive to enhance trading environment in the local bourse and improve liquidity condition, an accurate liquidity measure is imperative to successful implementation and evaluation of various liquidity-enhancing initiatives. Unfortunately, trading volume and turnover ratio which are often used as proxies for liquidity in the Malaysian policy circles have been criticized as inappropriate measures for liquidity. This motivates the construction of the "Closing Percent Quoted Spread" which is found to have remarkable correlation with the intraday bid-ask spread benchmark by Fong et al. (2014) in the context of the Malaysian stock market. To further shed light on the time-series behavior of liquidity in the local stock exchange, trend and seasonality analyses are performed on the aggregate monthly liquidity indicators.

It is found that small-cap stocks have a higher turnover ratio than large-cap stocks in the period from 2000 to 2014. However, in terms of liquidity, stocks with larger market capitalization still outperform small-cap stocks as their information are more easily accessible by the general public via analyst coverage and publication of annual reports. This study also shows that the turnover ratio is a poor liquidity measure given the inconsistent correlation of trading activity and liquidity under different weighting regimes. The presence of trend and seasonality is mainly observed in the market-value weighted trading activity and liquidity proxies, suggesting that these time-series behaviors are driven by large-cap stocks rather than their small-cap counterparts. Downward trends, albeit mild, are observed in the market value-weighted turnover ratio and "Closing Percent Quoted Spread", indicating that liquidity has improved over the period from 2000 to 2014 but trading activity has declined.

The contribution of the constructed aggregate order-based liquidity proxy is not limited to just the examination of time-series behavior but can be further extended to amplify its usage in future research. The suitability of the aggregate monthly liquidity proxy as a predictor of business cycle can be tested given that Næs et al. (2011) find empirical evidence that stock market liquidity is a better predictor of the real economy than stock prices as it generally worsens ahead of the onset of recessions. Apart from that, the liquidity impact of the recent withdrawal of foreign investors from the local stock market, which send the FTSE Kuala Lumpur Composite Index nose-diving, can also be studied using the market liquidity indicator. This recommendation is motivated by the findings of Vagias and Van Dijk (2012) where international capital flows to Asia/Pacific are

positively associated with liquidity of the local stock markets. Lastly, the work of Nyborg and Östberg (2014) suggests that the aggregate liquidity measure can be used to study the connection between liquidity in the stock market and interbank markets.

Table 3. Trend and seasonality regressions of market liquidity and turnover

Indicators	C	Time	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Equal-Weighted													
Turnover	0.3794***	-0.0004	0.0473	-0.0268	-0.0144	-0.0569	-0.0935***	-0.0428	-0.0695**	-0.0952***	-0.0787**	-0.0507	-0.0987***
	(0.0830)	(0.0007)	(0.0509)	(0.0255)	(0.0356)	(0.0337)	(0.0332)	(0.0469)	(0.0341)	(0.0321)	(0.0305)	(0.0272)	(0.0190)
CPQS	0.0374**	0.0001	-0.0004	0.0007	-0.0035	-0.0029	-0.0015	-0.0030	-0.0028	0.0007	-0.0007	-0.0020	0.0022
	(0.0152)	(0.0003)	(0.0020)	(0.0027)	(0.0063)	(0.0114)	(0.0106)	(0.0079)	(0.0093)	(0.0074)	(0.0069)	(0.0056)	(0.0043)
Value Weighted													
Turnover	0.3189***	-0.0009***	0.0378	-0.0005	-0.0193	-0.0227	-0.0632***	-0.0452	-0.0560**	-0.0590***	-0.0507**	-0.0533***	-0.0782***
	(0.0406)	(0.0003)	(0.0276)	(0.0162)	(0.0177)	(0.0212)	(0.0213)	(0.0236)	(0.0244)	(0.0225)	(0.0244)	(0.0174)	(0.0127)
CPQS	0.0151***	-0.00005***	-0.0002	-0.0001	-0.0005	-0.0003	0.0000	-0.0003	-0.0005	0.0003	0.0002	0.0003	0.0010**
	(0.0014)	(0.00001)	(0.0004)	(0.0004)	(0.0006)	(0.0008)	(0.0008)	(0.0006)	(0.0007)	(0.0006)	(0.0005)	(0.0004)	(0.0005)

Notes: Figures in parentheses denote the robust standard error for the coefficient computed using HAC specification mentioned in Section 3.4. *** and ** denote significance at the 1% and 5% level respectively.

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Examination of Tourism-led Growth Hypothesis in Thailand

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Abstract

This study investigates the causal relationship between tourism expansion and economic growth in Thailand. The vector autoregressive (VAR)-based cointegration approach developed by Johansen (1991) is employed to examine the long-run equilibrium relationship between these two variables. Further, the Granger causality between tourism expansion and economic growth is tested by adopting the augmented VAR technique developed by Toda and Yamamoto (1996). It is found that there is no long-run equilibrium relationship between two series. Additionally, the results from the Toda-Yamamoto Granger causality test verify that the tourism-led growth is not valid in Thailand.

Keywords: Economic growth; Tourism; Cointegration; Granger causality; Thailand.

1. Introduction

Over the past decades, tourism industry became an importance sector in promoting economic growth for many developing countries. The United Nations World Tourism Organization (UNWTO) demonstrated that there are over 180 supply-side activities connected to tourism sector, including transportation, communication, accommodation, banking and finance, cultural, and promotion services. As a result, tourism industry not only generates income to the country but also provokes economic growth by creating employment opportunity, investment in the new infrastructure, as well as, earing from foreign exchange (Archer, 1995; Durbarry, 2002; West, 1993). For Thai economy, the Tourism Authority of Thailand (TAT) reported that the number of international tourist arrival increases from 10,799,067 to 26,735,583 during the period of 2002 to 2013. This substantial increase in the number of visitors stimulates many tourism-related activities that directly generate revenue for the country. In 2013, however, the World Travel and Tourism Council (WTTC) reported that the direct contribution of travel and tourism to Thailand's gross domestic product (GDP) was 1,074 million Baht which accounts for only 9 percent of GDP.

Given the aforementioned fact, tourism development is a crucial tool for boosting up economy if it can be proven that tourism expansion significantly induces economic growth. In the literature, the examination of a causal impact of tourism on economic growth is known as "tourism-led growth (TLG) hypothesis". Although TLG hypothesis is widely debated and tested in the literature, the direction of its causality remains unsolved. According to the recent comprehensive survey (Romero & Molina, 2013), the result of testing TLG hypothesis vary among different countries. A collection of studies verified the existence of tourism induces economic growth phenomenon (Adnan Hye & Ali Khan, 2012; Amaghionyeodiwe, 2012; Eeckels, Filis, & Leon, 2012; C. F. Tang & Abosedra, 2012). Some studies, on the other hand, argued against the supportive of TLG hypothesis by showing that, in fact, economic expansion help promoting tourism development (Cortés-Jiménez, Nowak, & Sahli, 2011; Lean & Tang, 2010; Oh, 2005; Payne & Mervar, 2010; C. F. Tang, 2011). These authors explained in the favor of their result that the development in economy creates employment, business, and investment opportunities that attract business-trip visitors. This group of visitors usually spends their money for other non-business activities which eventually promotes tourism growth. In addition, the empirical result of some studies revealed that a bi-directional causal relationship between tourism and economic growth were observed (Dritsakis, 2004; Katircioglu, 2009b; S. S. Kim & Wong, 2006; Kreishan, 2010; Lee & Chang, 2008).

Due to the contradict results observed from different countries, recognition of the direction of causal relationship between tourism and economic growth is vital to a policy-maker in making decision on the implementation of tourism promotion and economic growth policy (Oh, 2005). Nevertheless, the TLG hypothesis is rarely investigated for the case of Thai economy. Therefore, the main objective of this study is to investigate the direction of causality relationship between tourism and economic growth in the context of Thai

economy. In addition, based upon time-series analysis, a long-run equilibrium relationship between tourism and economic growth in Thailand is examined by employing the Johansen's cointegration test (Johansen, 1991). Then, an investigation of causality is performed by conducting the Granger causality test which based upon the augmented vector autoregressive (VAR) system developed by Toda and Yamamoto (1995) and Dolado and Lütkepohl (1996) (hereafter TYDL). The TYDL approach allows the test result remains valid without the prior knowledge of the order of integration and cointegration properties. Another advantage of TYDL approach is that it allows the Wald test statistics to be asymptotically chi-square distributed under the null which is not the case for the conventional Granger causality test.

The rest of the paper is organized as follows. The literature review is explained in Section 2. Section 3 discusses the data and the methodology used in this study. The empirical results are reported in the Section 4. Finally, the conclusion and the implication of the results are discussed in Section 5.

2. Literature review

According to the neoclassic growth theory, progress of exports leads to output expansion through spill-over effects, such as economics of scale, incentive for technological improvement, and efficient skill of management, resulting from the pressure of foreign competition (Feder, 1983). In the literature, a collection of empirical studies consistently supported that there exist a causal relationship between export and economic growth (eg. Bahmani-Oskooee & Alse, 1993; Dash, 2009). These authors demonstrated that the expansion of exports drives economic growth.

Based upon the growth model, tourist spending is considered as another form of export earnings since international visitors consume goods and services within the host country (Archer, 1995; Durbarry, 2002; West, 1993). This earning not only generates income to the government and household of the host country, but also makes a contribution to foreign exchange earnings that will be used to pay for imports and to maintain the national reserve. Besides, tourism industry plays an important role in creating employment opportunities, stimulating investments in new infrastructure and help improving the attraction of new technology (Oh, 2005; Tang, 2011). As a result, it can be said that the tourism-led growth (TLG) hypothesis is rationally derived from the export-led growth (ELG) hypothesis.

Motivated by the theoretical framework adopted in ELG hypothesis, a number of researchers attempted to examine the casual relationship between tourism and economic growth. In the other words, they aimed to test the validity of TLG hypothesis. The main objective of these studies is test whether tourism development induces economic growth or economic expansion lead to tourism activities or it is a bi-direction between two variables. In addition, those causal relationships can be tested whether they are appeared in the long-run or only in the short-run period. Interestingly, the results are inconsistent throughout the investigated countries. A number of researchers demonstrated that there is a long-run dynamic relationship between tourism and economic growth in Greece (Dritsakis, 2004), Pakistan (Khalil, Kakar, Waliullah, & Malik, 2007), Taiwan (Lee & Chang, 2008), and Singapore (Katircioglu, 2010, 2011). These authors also argued that the bi-direction relationship tourism and economic growth was observed within these countries.

In some economies, it is found that tourism causes economic growth but it is not the other way around, for instance, Greece (Eeckels et al., 2012), Jamaica (Amaghionyeodiwe, 2012), Lebanon (Tang & Abosedra, 2012), Turkey (Gunduz & Hatemi-J, 2005; Kaplan & Celik, 2008), and Pakistan (Adnan Hye & Ali Khan, 2012). The interpretation of their results is that policy maker should adequately and efficiently promote tourism industry in order to boost up economy and eventually stimulate the economic growth. Meanwhile, the opposite direction of causal relationship was observed in other countries including the U.S. (Tang & Jang, 2009), China (Wang, 2010), Tunisia (Cortés-Jiménez et al., 2011), South Korea (Oh, 2005), Croatia (Payne & Mervar, 2010), and Malaysia (Tang, 2011). For these countries, allocation of government budget for the development in tourism industry may not be an efficient policy for expanding their economic growth. In contrast, encouraging economic activities helps developing tourism sector.

In addition, some authors demonstrated that, in some countries such as India, Brazil, Turkey, Spain, and Hong Kong, tourism and economics growth do not move together in both short-run and long-run dynamics (Brida, Punzo, & Risso, 2011; Katircioglu, 2009a; Mishra, Rout, & Mohapatra, 2010; Othman, Salleh,

&Sarmidi, 2012). In the other words, promoting economic activities has no impact on tourism development and vice-versa. These authors argued that the government budget must be allocated to the economy-related activities itself in order to stimulate economic growth of the country. Recognition of the direction of the relationship is remarkably important for a policy-maker of each country. Therefore, the TLG hypothesis for each country must be verified. Nevertheless, the causal relationship between tourism and economic growth in Thailand was rarely examined.

3. Data and methodology

In this study, a bivariate model was used to preserve *parsimonious* of the model as suggested by previous studies (e.g. Eeckels et al., 2012; Kim, Chen, & Jang, 2006; Tang & Abosedra, 2012).The quarterly data of the number of international tourist arrivals (TA) to Thailand and the real GDP of Thailand (Year 2000 = 100) were utilized as the proxy of tourism expansion and economic growth, respectively. The sample period covers the period from 1997:Q1 to 2014:Q4. These data were quoted from the Bank of Thailand and the National Economic and Social Development Board of Thailand. The variables were transformed using natural logarithm to encourage the stationary in the variance-covariance matrix structure. Therefore, the following models were specified.

$$\ln Y_t = f[\ln TA_t] \tag{1}$$

$$\ln TA_t = f[\ln Y_t] \tag{2}$$

where ln is natural logarithm. Y_t represents real GDP as a proxy of economic growth and TA_t is the number of international tourist arrivals to Thailand as a measure of tourism expansion. Then, to test stationary of time series of the variables, the Augmented Dickey-Fuller (ADF) test and the Kwiatkowski-Phillips-Schmidt-Shin (KPSS) test were adopted before examining the cointegration of the series. Suppose that time series of the variables are integrated at the same order, i.e. $I(0)$ or $I(1)$, and are possibly cointegrated, the long-run relationship between tourism expansion and economic growth can be examined by a conventional cointegration test such as the Engle-Granger two-stage method (Engle & Granger, 1987), Johansen (1991) approach, and Johansen and Juselius (1990) methodology.

To investigate the causal relationship between tourism expansion and economic growth, the bivariate augmented VAR model with $p = (k + m)$ lag length as suggested by TYDL was formulated. It can be expressed as follows:

$$\begin{bmatrix} lnY_t \\ lnTA_t \end{bmatrix} = \begin{bmatrix} a_1 \\ a_2 \end{bmatrix} + \begin{bmatrix} A_{11,1} & A_{12,1} \\ A_{21,1} & A_{22,1} \end{bmatrix} \begin{bmatrix} lnY_{t-1} \\ lnTA_{t-1} \end{bmatrix} + \begin{bmatrix} A_{11,2} & A_{12,2} \\ A_{21,2} & A_{22,2} \end{bmatrix} \begin{bmatrix} lnY_{t-2} \\ lnTA_{t-2} \end{bmatrix} + \cdots$$

$$+ \begin{bmatrix} A_{11,k} & A_{12,k} \\ A_{21,k} & A_{22,k} \end{bmatrix} \begin{bmatrix} lnY_{t-k} \\ lnTA_{t-k} \end{bmatrix} + \begin{bmatrix} A_{11,p} & A_{12,p} \\ A_{21,p} & A_{22,p} \end{bmatrix} \begin{bmatrix} lnY_{t-p} \\ lnTA_{t-p} \end{bmatrix} + \begin{bmatrix} \varepsilon_{1t} \\ \varepsilon_{2t} \end{bmatrix} \tag{3}$$

where k is the optimal lag length for the VAR system as suggested by Akaike Information Criteria (AIC), Schwarz information criterion (SC), and Hannan-Quinn information criterion (HQ). However, to ensure that the VAR system is free from the serial correlation in the residuals, the LM test was employed and the additional lag may be added to the system if it is required. m is the highest order of integration found from the series of interest. According to TYDL approach, m lag(s) of each of the variables will be added to the VAR system to ensure the asymptotic chi-square distribution assumption. The Wald test statistics is calculated to verify the causal relationship between variables. Firstly, tourism expansion does not Granger-cause economic growth if the null hypothesis $(A_{12,k} = 0 \forall_k)$ is significantly rejected. Secondly, economic growth does not Granger-cause tourism expansion if the null hypothesis $(A_{21,k} = 0 \forall_k)$ is significantly rejected. In the case that $A_{12,k} = 0 \forall_k$ and $A_{21,k} = 0 \forall_k$, it can be said that there is no causal relationship between tourism expansion and economic growth.

4. Empirical results

4.1 Unit root and cointegration tests

The ADF and KPSS test were employed to identify the order of integration of the two series. The result in Table 1 reveals that lnY_t and $lnTA_t$ are $I(1)$ cointegrated. For ADF test, the null hypothesis of one unit root against the alternative of stationarity cannot be rejected in levels of variables, but is rejected in their first differences. Consistently, the null hypothesis of stationary against the alternative of non-stationary cannot be rejected in their first differences for the case of KPSS test. Since all variables are $I(1)$, a long-run equilibrium analysis using a standard cointegration technique was then conducted.

The VAR-based cointegration test proposed by Johansen (1991) was utilized in this study. According to the Johansen procedure, two likelihood ratio tests, a trace test and a maximum-eigenvalue test, are adopted to identify the number of cointegrating relationships among the series. Table 2 indicates that TA and GDP are not cointegrated in the long-run since the null hypothesis of no cointegration cannot be rejected based upon both the trace statistic and maximum-eigenvalue statistic. The trace statistic and maximum-eigenvalue statistic are reported at 4.1070 and 3.8320, respectively, which are below the critical value of 15.4947 and 14.2646, respectively.

Table 1 Results of unit root test for stationary of the number of tourist arrivals and GDP at level and first difference

Method (Null hypothesis)	Variable	Level $I(0)$		First Difference $I(1)$	
		Intercept	Intercept & trend	Intercept	Intercept & trend
ADF test	$\ln Y_t$	- 0.23 (0)	- 2.54 (0)	- 9.17* (0)	- 9.11* (0)
(Null of non-stationary)	$\ln TA_t$	- 0.18 (3)	- 2.66 (4)	-11.77* (2)	- 11.68* (2)
KPSS test	$\ln Y_t$	1.12* (6)	0.13*** (6)	0.11 (3)	0.11 (3)
(Null of stationary)	$\ln TA_t$	1.08* (6)	0.18** (3)	0.21 (14)	0.10 (14)

Note: Both tests is estimated with intercept and intercept and trend. *, **, and *** represent 1%, 5%, and 10% level of significant, respectively. For the ADF test, the number in parentheses is the number of lag lengths determined based on Schwarz information criteria and used the test. For the KPSS test, the number in parentheses is the number of bandwidth used the test.

Table 2 Results of the Johansen cointegration test

Null hypothesis (No. of cointegration equation)	Trace Statistic	Critical Value (at 5% level)	Maximum Eigenvalue Statistic	Critical Value (at 5% level)
None	0.056407	4.107025	0.056407	3.832013
At most one	0.004158	0.275012	0.004158	0.275012

4.2 TYDL Granger causality test

According to Table 3, the optimal lag structure of five is suggested by AIC, while lag length of one is suggested by SC and HQ. Therefore, lag structure of one was firstly selected and incorporated into VAR system. The LM test for residual serial correlation was conducted to ensure that the VAR system is free from the autocorrelation problem. The LM test statistic suggested the suitable lag structure of five. From the result

presented earlier, both series of TA and GDP are $I(1)$, resulting $m = 1$ is used in the TYDL Granger causality test. Table 4 reports the TYDL granger causality results. The results reveal that the null hypothesis of $lnTA_t$ does not Granger-cause lnY_t and the null of lnY_t does not Granger-cause $lnTA_t$ cannot be rejected. Thus, it can be concluded that the TLG hypothesis is empirically invalid for the case of Thailand. This finding is consistent with the previous study that employed the annual data from the period of 1970 to 2010 to investigate the TLG hypothesis for Thailand (Othman et al., 2012). Differently, the ARDL and VECM-based Granger causality tests were adopted in their study. They also found that the TLG hypothesis is invalid for several countries such as, Greece, Hong Kong, Mexico, Portugal, the U.S., and Spain.

Table 3 VAR lag structure selection base upon selected information criteria

Lag	AIC	SC	HQ
0	-0.228070	-0.158259	-0.200763
1	-5.274096	-5.064662*	-5.192175*
2	-5.198831	-4.849774	-5.062296
3	-5.232759	-4.744079	-5.041609
4	-5.427768	-4.799465	-5.182004
5	-5.450025*	-4.682099	-5.149647
6	-5.358206	-4.450656	-5.003213
7	-5.265079	-4.217907	-4.855472
8	-5.179710	-3.992914	-4.715489
9	-5.150076	-3.823657	-4.631241
10	-5.103476	-3.637435	-4.530027
11	-5.138584	-3.532920	-4.510520
12	-5.111361	-3.366074	-4.428683

Note: * indicates lag order selected by the criterion. AIC: Akaike information criterion, SC: Schwarz information criterion, and HQ:

Hannan-Quinn information criterion

Table 4 Causality tests for tourism expansion and economic growth

Null hypothesis	Wald statistic	d.f.	Prob.
$lnTA_t \nrightarrow lnY_t$	2.7102	5	0.7445
$lnY_t \nrightarrow lnTA_t$	4.7011	5	0.4534

Note: $lnTA_t \nrightarrow lnY_t$ demnotes that tourism expansion does not Granger-cause economic growth. $lnY_t \nrightarrow lnTA_t$ implies that economic growth does not Granger-cause tourism expansion.

5. Conclusions

Theoretically, tourism expansion could have a direct impact on economic growth of the country. However, a number of studies demonstrated that the development of tourism industry does not stimulate economic growth of some countries. Thus, the result of the study has an important implication for the development in tourism and economic growth policy. The main contribution of this study is to give the guidance to a policy-maker in Thailand in determining whether government budget should be allocated to expand and modernize the tourism industry in order to enhance economic growth.

The Johansen VAR-based cointegration and the TYDL Granger causality tests were employed to investigate the TLG hypothesis in the case of Thailand. It is found that, however, tourism expansion as measured by the number of international tourist arrivals and economic growth as represented by the GDP do not move together in the long-run. In the other words, there is no long-run relationship between these two variables. In addition, the results from the TYDL Granger causality test reveal that tourism expansion does not Granger-cause economic growth and the development of the economy also does not Granger-cause tourism growth for the case of Thailand.

The plausible explanation of the invalidity of TLG hypothesis in Thailand is that the contribution of tourism income to the aggregated economy is considered low which was accounted for only nine percent of the total GDP in 2013. In the past decade, several external factors had a direct impact on the inbound tourism of Thailand such as bird flu disease in Asia, global financial crisis as well as 911-terrorist attacks in the United State. In addition, the political instability leading to long-period protests and violent demonstrations, the natural disaster, such as tsunami and flooding, and the bomb attacks at the southern part of Thailand are the main concern of international visitors to postpone and cancel their trips. Kim and Wong (2006) argued that tourism demand is directly affected by issues pertaining to security and health.

Thus, the implication of the results is that government budget allocated to expand and modernize the tourism industry in order to enhance economic growth may not be fully effective. Instead, the Tourism Authority of Thailand may have to reconsider and redirect their tourism promotion campaign to meet and attract the international tourist's demand. This manner could increase the number of international visitors and eventually generate revenue for tourism-related industries that directly stimulate economic growth.

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