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BRAND EQUITY AND MARKETING EFFECTING SUNSCREEN BUYING DECISION OF WOMEN IN BANGKOK

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Abstract

This research aimed to study the demographics, the marketing mix 4Ps, and the brand equity factors that affect the consumers' purchase decision on sunscreen of women in Bangkok. The sample in this research was the 400-female consumer in Bangkok who purchased decision sunscreen from Thailand (Local Brand) and sunscreen from a foreign country (Inter Brand) from Din Dang district, Ladprao district, Huaykwang district, and Wang Thonglang district, and respondents were selected using purposive sampling. In addition, the reliability test showed the Cronbach's alpha coefficient of these tools was 0.71-0.88. The data was collected by using questionnaires. The statistics of data analysis were mean, frequency, standard deviation, t-test, One Way ANOVA, and multiple regression analysis. The results showed that most of the sample were female, 20-30 years old, employees, had a bachelor's degree, whose single status, with an average monthly income of 10,000 – 20,000 baht. The different demographics in terms of age, profession, education level, and income significantly affect the sunscreen purchase decisions of women in Bangkok. The marketing mix 4Ps in terms of product, price, and promotion significantly affect the sunscreen purchase decision of women in Bangkok. The brand equity in terms of brand perceived quality, brand association, and brand loyalty substantially affects women's sunscreen purchase decisions in Bangkok.

Keyword: Brand Equity, Marketing Mix, Decision, Sunscreen

Significance of the research problems

Currently, numerous businesses relate to cosmetics and skincare products in Thailand, both local and foreign brands. The growth of the cosmetics and skincare business is rapid and constant. Thailand's beauty market value in 2020 was worth more than 218,000 million baht. In 2019, the growth rate of the beauty market in Thailand had increased to 6.7%, and the growth rate of the global beauty market in 2019 had reached 5.5%. The skincare products in the Thai beauty market had a market share of 42% and a growth rate of 7.4% (Euromonitor International, 2020). Sunscreen, which is part of the skincare market in Thailand, is offered in various local and foreign brands. Consequently, the consumers have a vast selection of sunscreen to buy. In 2016, Mistine (2016) found that the sunscreen market in Thailand could be divided up between the share of Thai sunscreen brands at 30-40% and the foreign sunscreen brands at 60-70%. This finding showed the market share of the sunscreen market in Thailand that the foreign sunscreen brands had a larger market size in Thailand than Thai brands. Accordingly, this finding led to how consumers make the purchase/buying decisions between sunscreen from Thai or foreign brands and which factors influence the decision to buy sunscreen.

Therefore, from the background and significance of the problems, this research aimed to study the following factors. Firstly, the independent variables included the demographics, the marketing mix 4Ps, and the brand equity factors. The demographic factor is personal data that affect consumer behavior, which can be analyzed for target group or market share setting. The marketing mix 4Ps factor is a set of controllable marketing tools that can respond to consumer needs and provide consumer satisfaction. While brand equity is the characteristics that differentiate the products and can be appealing, which will raise consumer perception of the product quality, loyalty, recognition and help maintain the market share. Secondly, the dependent variable was sunscreen buying decisions. The buying or purchase decision is the process that consumers take before deciding to buy the product. The purchase decision process will assist the entrepreneurs, marketing experts, and businesses in adapting the sales strategy that is corresponsive to the consumers' buying decisions. Although there are various consumer demands, the consumers still have a similar pattern in the purchase decisions. The finding of this research shall provide the guidelines for the entrepreneurs, marketing experts, and businesses to consider and develop Thai sunscreen brands to gain more competitive advantages in the market.

The research objectives

1. To study the demographic factors that affect the sunscreen buying decision of women in Bangkok.
2. To study the marketing mix 4Ps factors that affect the sunscreen buying decision of women in Bangkok.
3. To study the brand equity factors that affect the sunscreen buying decision of women in Bangkok.

Conceptual framework

This research consisted of the conceptual frameworks including the demographic factors (Hanna & Wozniak, 2001, Schiffman & Kanuk, 1994), marketing mix 4Ps factors (Kotler & Keller, 2012), and brand equity factors (Aaker, 1991) that affected the buying decisions (Kotler & Keller, 2012), as shown in Picture 1.

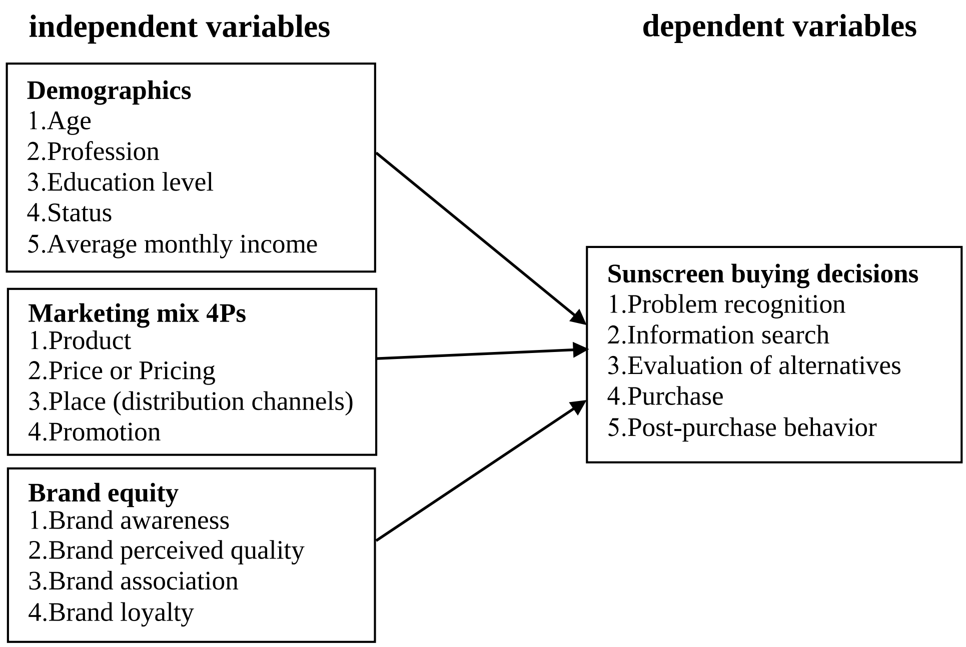

Figure 1 Conceptual framework

Research methodology

This research is quantitative research with the following research methodology.

Population and sample group

The population and sample group is the female consumers in Bangkok that selected and purchased sunscreen. The sample group was chosen by purposive sampling. The sample size was calculated using W.G. Cochran's unknown population formula (1941) and set a reliability value at 95% with the margin of error at 5%. The sample group consisted of 385 people, but the actual data collection had obtained all 400 complete questionnaires.

Validation of the research instruments

1. The test on content validity from 4 experts.

2. Validation on reliability using Cronbach's alpha coefficient found that the marketing mix variables had reliability values as followed: a product

variable was 0.818, a pricing variable was 0.815, a place variable was 0.710, and a promotion variable was 0.887. The brand equity variables had reliability values as followed: a brand awareness variable was 0.839, a brand perceived quality was 0.813, a brand association was 0.816, and brand loyalty was 0.877. The variable of sunscreen purchase decision had a reliability value of 0.801.

The protection of the data subjects and data collection

Before the data collection, the researcher asked the data subjects for consent to provide useful data for this research in advance. The questionnaire did not have or show any data that can identify the identity of the data subjects. All data collected from the data subjects was stored by the researcher on the computer with security password protection to prevent unauthorized access to the collected data. The Research Ethics Committee of the Business Administration Graduate School, University of the Thai Chamber of Commerce, had considered and excluded this research from the ethics in human research review by the international standard because this research fell within the scope of review exemption. For the data collection, the researcher distributed the questionnaire among the target group within Bangkok.

Data analysis

In this research, the researcher had analyzed the statistical data as followed.

5.1 Descriptive statistics were analyzed, including mean, frequency, percentage, and standard deviation.

5.2 Inferential statistics were analyzed by the Independent Sample t-test, One Way ANOVA, and multiple regression analysis.

Research findings

1. The results of personal data analysis by the calculation of maximum frequency, percentage and, personal data found an age of 252 subjects was around 20-30 years old (63.00%), a profession of 158 subjects was company employee (39.50%), an education level of 295 subjects was Bachelor’s degree/High Vocational Certificate (73.75%), a status of 336 subjects was single (84.00%), an average salary of 150 subjects was about 10,000-20,000 baht (37.50%).

2. The results of the descriptive statistics analysis using mean, standard deviation, and satisfaction level were as followed.

2.1 The overall result of data analysis on the marketing mix 4Ps variables was at the highest level, with the mean was at 4.34 and the standard deviation was at 0.48. The analysis on each variable found that a product variable had a mean of 4.61 and a standard deviation of 0.43. A pricing variable had a mean of 4.23 and a standard deviation of 0.61. A place variable had a mean of 4.54 and a standard deviation of 0.55. A promotion variable had a mean of 3.97 and a standard deviation of 0.73. The results are shown in Table 1.

Table 1 shows the analysis result on the marketing mix 4Ps variables/factors by calculating the mean, standard deviation, and satisfaction level.

Marketing Mix 4Ps Variables	$\overline{X}$	S.D.	Satisfaction
Product	4.61	0.43	Highest
Pricing	4.23	0.61	Highest
Place	4.54	0.55	Highest
Promotion	3.97	0.73	High
Total	**4.34**	**0.48**	**Highest**

2.2 The overall result of data analysis on the brand equity variables was at the highest level, with the mean was at 4.32, and the standard deviation was at 0.55. The analysis on each variable found that a brand awareness variable had a mean of 4.40 and a standard deviation of 0.58. A brand perceived quality variable had a mean of 4.42 and a standard deviation of 0.57. A brand association variable had a mean of 4.23 and a standard deviation of 0.65. A brand loyalty variable had a mean of 4.21 and a standard deviation of 0.71. The results are shown in Table 2.

Table 2 shows the analysis result of the brand equity variables/factors by calculating the mean, standard deviation, and satisfaction level.

Brand Equity Variables	$\overline{X}$	S.D.	Satisfaction
Brand awareness	4.40	0.58	Highest
Brand perceived quality	4.42	0.57	Highest
Brand association	4.23	0.65	Highest
Brand loyalty	4.21	0.71	Highest
Total	**4.32**	**0.55**	**Highest**

2.3 The overall result of data analysis on buying decisions was at the highest level, with the mean was at 4.18 and standard deviation was at 0.67, as shown in Table 3.

Table 3 shows the analysis result of the sunscreen buying decision by calculating the mean, standard deviation, and satisfaction level.

Sunscreen Buying Decisions	$\overline{X}$	S.D.	Satisfaction
Plan before buying the sunscreen	3.88	1.07	High
Research the sunscreen information from reliable sources before purchasing	4.31	0.77	Highest
Read up and make a comparison between sunscreen products before making a purchase decision	4.39	0.68	Highest
Intend to buy sunscreen at a shopping mall or through online channel	4.60	0.67	Highest
Intend to buy sunscreen from a nearby place	3.73	1.18	High
Total	**4.18**	**0.67**	**High**

3. The results of hypothesis testing

3.1 The research showed personal data analysis results, which tested the difference in sunscreen purchase decision-making. The test was conducted using One Way ANOVA with a Sig. greater than 0.05. The personal data analysis on an age factor found that a Sig. equaled 0.000, a profession factor had a Sig. of 0.019, an education level factor had a Sig. of 0.000, a status factor had a Sig. of 0.507, and an average salary had a Sig. of 0.000. The results were shown in Table 4.

Table 4 shows the analysis result on personal data analyzed by One Way ANOVA.

Descriptive	**n**	$\bar{X}$	**S.D.**	**F**	**Sig.**
Age	400	4.18	0.67	7.979	0.000
Profession	400	4.18	0.67	2.987	0.019
Education level	400	4.18	0.67	10.134	0.000
Status	400	4.18	0.67	0.680	0.507
Average salary	400	4.18	0.67	8.247	0.000
Total	**400**	**4.18**	**0.67**		

3.2 The analysis of the marketing mix 4Ps independent variables as analyzed by multiple regression analysis with the statistical significance level at 0.05, found that a product variable had a Sig. of 0.000. A price variable found a Sig. equaled to 0.009, and a promotion variable had a Sig. of 0.000. At the same time, a distribution place variable had a Sig. equaled to 0.586, which did not influence the sunscreen buying decisions of women in Bangkok. The results were shown in Table 5.

Table 5 shows the analysis results on the marketing mix 4Ps variables using multiple regression analysis.

Independent Variables	**B**	**S.E.**	**Beta**	**t**	**Sig.**
Constant	-0.280	0.262		-1.069	0.286
Product (X_1)	0.537	0.072	0.347	7.412	0.000
Price (X_2)	0.159	0.061	0.145	2.612	0.009
Place (X_3)	0.031	0.058	0.026	0.544	0.586
Promotion (X_4)	0.295	0.046	0.322	6.446	0.000

3.3 The analysis results of the brand equity independent variables, analyzed using multiple regression analysis with the statistical significance level at 0.05, found that a brand perceived quality variable had a Sig. equaled to 0.001, a brand association variable had a Sig. of 0.000, and a brand loyalty variable had a Sig. of 0.001. At the same time, brand awareness had a Sig. equaled to 0.310, which did not influence the sunscreen buying decisions of women in Bangkok.

Table 6 shows the analysis results of the brand equity variables using multiple regression analysis.

Independent Variables	B	S.E.	Beta	t	Sig.
Constant	0.622	0.205		3.031	0.003
Brand awareness (X_1)	0.066	0.065	0.058	1.017	0.310
Brand perceived quality (X_2)	0.221	0.066	0.187	3.350	0.001
Brand association (X_3)	0.377	0.067	0.364	5.595	0.000
Brand loyalty (X_4)	0.165	0.048	0.175	3.415	0.001

Conclusion

From the research on the brand equity factors that affect sunscreen buying decisions of women in Bangkok, the results are as followed.

1. The different demographic factors in age, profession, education level, and average salary, affect sunscreen buying decisions of women in Bangkok differently, with a statistical significance level at 0.05. The different statuses do not influence sunscreen buying decisions of women in Bangkok, with a statistical significance level at 0.05.

2. The marketing mix 4Ps factors in a product, pricing, and promotion affect sunscreen buying decisions of women in Bangkok with a statistical significance level at 0.05. However, a distribution place factor does not affect sunscreen buying decisions of women in Bangkok, with a statistical significance level of 0.05.

3. The brand equity variables in brand perceived quality, brand association, and brand loyalty influence sunscreen buying decisions of women in Bangkok with a statistical significance level of 0.05. But a brand awareness does not affect sunscreen buying decisions of women in Bangkok, with a statistical significance level of 0.05.

Discussion

The demographic variables include age, education level, and average salary. The research finds that the different demographic factors in age affect women's sunscreen buying decisions in Bangkok differently, with the statistical significance level at 0.05. Therefore, the conclusion is an accepted hypothesis. The result coincides with the research of Kungsananon & Sampanwattanachai (2017) that studied the Factors Affecting the Customers Purchase Decision Making towards Imported Cosmetics in Bangkok and found that the different demographic factors in age, education level, and average salary affected imported cosmetics purchase decisions of consumers in Bangkok differently with the statistical significance level at 0.05. Nowadays, there is a variety of sunscreen or other products to choose from that respond to the various consumer demands, including age, information that consumers received, or the appropriate price range.

Next, the research result finds the different demographic factor in profession affects sunscreen buying decisions of women in Bangkok differently with the statistical significance level at 0.05. Thus, the hypothesis is accepted. Nevertheless, the result conflicts with the research of Khatiraksit (2017) on the Factors

Influencing Purchase Decisions for Sunscreen Products in the Bangkok metropolitan area, Thailand that found the different professions did not affect different sunscreen products purchase decisions of consumers in the Bangkok metropolitan area with the statistical significance level at 0.05. The careers are more diverse, with varying working hours and periods affecting the various demands and expectations on sunscreen or product effectiveness. Consequently, the consumer needs on purchasing sunscreen or other products will be different. Moreover, there are different sunscreen or other products in the current market that respond to various needs of consumers. Therefore, the demographic factor in the profession that did not affect different buying decisions in the past would affect sunscreen or other consumer products buying decisions differently now.

In addition, the research finds that the different demographic factor in status does not affect sunscreen buying decisions of women in Bangkok differently with the statistical significance level at 0.05. The conclusion of this result rejects the hypothesis. This result corresponds with Traikulnipat's (2016) research that studied the Factors Influencing Consumer Choice of Sun Screen Products in the Bangkok Metropolitan Area and found the different statuses did not affect different sunscreen purchase decisions of consumers in the Bangkok Metropolitan area with the statistical significance level at 0.05. This result shows that no matter which statuses the consumers are in, they still have the demands to buy products and use them for similar purposes such as self-cares, in which they recognize the importance of sunscreen as a daily necessity that will assist effectively with the beauty, self-care, and health care.

On the marketing mix factors 4Ps in a product, the sample group mainly focused on the safety of use with the mean at 4.84 and the highest level of satisfaction. For the marketing mix factor in pricing, the sample group mainly emphasized the appropriate value for the price with the mean of 4.70 and the highest level of satisfaction. The research result finds that the product and pricing affect sunscreen buying decisions of women in Bangkok, with the statistical significance level at 0.05. Thereby, the conclusion is an accepted hypothesis. The result coincides with Kungsananon & Sampanwattanachai's (2017) research that studied the Factors Affecting the Customers Purchase Decision Making towards Imported Cosmetics in Bangkok and found the marketing mix factors in product and pricing affected imported cosmetics purchase decisions of consumers in Bangkok with the statistical significance level at 0.05. Now, the consumers emphasize the product and price, such as the quality, the product's effectiveness, the reasonable price for the products, etc. But the result conflicts with the research of Poonyarith (2016) that studied the Marketing Mix and Brand Equity Affecting the Distributor's Buying Decisions of AGELOC Products at Nu Skin Enterprises (Thailand) Limited in Bangkok and found the marketing mix factors in product and pricing did not affect the distributor's buying decisions of AGELOC products at Nu Skin Enterprises (Thailand) Limited in Bangkok with the statistical significance level at 0.05. In the past, the marketing mix factors like product and pricing may not influence consumers' purchase decisions because there was no wide selection of the products and prices or no significant differentiator for the consumers.

Another variable of the marketing mix 4Ps is promotion. The sample group emphasized the promotional campaigns (discounts, exchanges, giveaways, freebies) with the mean at 4.34 and the highest level of satisfaction. The result finds the marketing mix factor in promotion affects sunscreen buying decisions of women in Bangkok, with the statistical significance level at 0.05. Therefore, the research accepts the hypothesis. This result also corresponds with the past study of Sudsawatt (2010) on the Factors of Marketing Mix and Brand Equity that have an effect on how the Bangkok university's college student decide to buy the Korean cosmetics that the marketing mix factor in promotion affected imported Korean cosmetics buying decisions of Bangkok university's college students with the statistical significance level at 0.05. The marketing mix factor in promotion not only provides consumers with the values for the money but also provides an exciting strategy to entice the consumers and increases the confidence of products, whether through advertising or promotional campaigns.

Moreover, on the marketing mix factor in distribution place, the sample group gave importance to the availability of the products at the hypermarkets, supermarkets, shopping malls, or online channels with the mean at 4.72 and the highest level of satisfaction. Yet, the research finds the marketing mix factor in distribution places does not affect sunscreen buying decisions of women in Bangkok, with the statistical significance level at 0.05. Thus, the hypothesis is rejected. This result conflicts with Sudsawatt's (2010) research on the Factors of Marketing Mix and Brand Equity that have an effect on how the Bangkok university's college student decide to buy the Korean cosmetics that found the marketing mix factor in distribution place affected imported Korean cosmetics buying decisions of Bangkok university's college students with the statistical significance level at 0.05. In the past, the product logistics services were not as extensive or effective. In contrast, present-day logistics services can deliver the products rapidly and more effectively with product status tracking ability. Therefore, the current distribution channels no longer affect sunscreen or other product buying decisions. There are many distribution channels to purchase products, such as hypermarkets, shopping plazas, or online. The amount of time the consumers need to travel to buy the products and the amount of time the consumers need to wait for the online orders are also similar short.

For the brand equity factor in brand perceived quality, the sample group primarily emphasized the brands of sunscreen that influenced the consumers' perception of the reliable product quality, with the mean at 4.50 and the highest level of satisfaction. On the brand equity factor in brand loyalty, the sample group mainly emphasized the consumers' pride in telling other people that they have used the sunscreen of the brands they bought from, with the mean at 4.38 and the highest level of satisfaction. The research finds that the brand equity factors in brand perceived quality and brand loyalty affect sunscreen buying decisions of women in Bangkok, with the statistical significance level at 0.05. Therefore, the hypothesis is accepted. This result coincides with the study of Kungsananon & Sampanwattanachai (2017) on the Factors Affecting the Customers Purchase Decision Making towards Imported Cosmetics in Bangkok and found the brand equity factors in brand perceived quality and brand loyalty affected imported cosmetics purchase decisions of consumers in Bangkok with the statistical significance level at 0.05. Now, there are many brands of sunscreen and other products, which may attribute to the consumers' perception of the brand quality that will lead to brand differentiation. The brand perceived quality will then lead to the consumers' confidence and loyalty to the brand. However, this result conflicts with the research by Kalyanavichai (2014) on the Brand Equity and Personal Values Affecting the Foreign Tourists' Making Decision to Purchase Brand Name Products at the Shopping Malls in Bangkok and found the brand equity factors in brand perceived quality and brand loyalty did not affect brand name products purchase decisions of foreign tourists in the shopping malls in Bangkok with the statistical significance level at 0.05. In the past, the brand equity factor in brand perceived quality might not affect consumers' purchase decisions because there were not many product brands as in the present day. There were no significant development or improvement in the brand perception or appearance to differentiate from each other. In comparison, the brand equity factor in brand loyalty might not affect the consumers' decision to buy products in the past because there was no emphasis on securing the customer base, whether it was the membership program or promotional campaign to build brand loyalty.

On the brand equity factor in brand association, the sample group emphasized the selected sunscreen product brands generally accepted among the consumers, with the mean at 4.46 and the highest level of satisfaction. The research finds the brand equity factor in brand association affects sunscreen buying decisions of women in Bangkok, with the statistical significance level at 0.05. Thus, the research accepts the hypothesis. This result corresponds with Vichit & Thongjeen's (2018) research on the Marketing Mixed, Brand Equity, and Trust Affecting Purchasing Decisions of Supplementary Vitamins in Bangkok and found the brand equity factor in brand association affected supplementary vitamins purchase decisions in Bangkok with the statistical significance level at 0.05. Because of the large variety of products or merchandise that are now distinguished, the consumers can associate themselves with certain elements the brands offer, such as when the brands hire influential persons as the brand ambassadors, etc., which can increase consumers' brand awareness. Nonetheless, this finding conflicts with the study of Kalyanavichai (2014) on the Brand Equity and Personal Values Affecting the Foreign Tourists' Making Decision to Purchase Brand Name Products at the Shopping Malls in Bangkok and found the brand equity factor in brand association did not affect brand name products purchase decisions of foreign tourists in the shopping malls in Bangkok with the statistical significance level at 0.05. As in the past, the products or other merchandise were not as diverse as today's market, so the brand association might not be necessary for consumers' buying decisions.

Moreover, the research found that on the brand equity factors in brand awareness, the sample group mainly emphasized buying the sunscreen based on the liking of the brands, with the mean at 4.49 and the highest level of satisfaction. The result finds the brand equity factor in brand awareness does not affect sunscreen buying decisions of women in Bangkok, with the statistical significance level at 0.05. Therefore, the hypothesis is rejected. This result coincides with the research of Poonyarith (2016) that studied the Marketing Mix and Brand Equity Affecting the Distributor's Buying Decisions of AGELOC Products at Nu Skin Enterprises (Thailand) Limited in Bangkok and found the brand equity factor in brand awareness did not affect the distributor's buying decisions of AGELOC products at Nu Skin Enterprises (Thailand) Limited in Bangkok with the statistical significance level at 0.05. Brand awareness can be raised through advertisement, word of mouth, etc., and generally can be seen. The consumers may not place importance on brand awareness but focus more on the other factors that emphasize the quality, effectiveness of the products or merchandise, pricing, appearances, the relationship between the consumers and the brands, etc., that related to the consumers' benefits more. This result does not correspond with the research of Kungsananon & Sampanwattanachai (2017) that studied the Factors Affecting the Customers Purchase Decision Making towards Imported Cosmetics in Bangkok and found the brand equity factor in brand awareness affected imported cosmetics purchase decisions of consumers in Bangkok with the statistical significance level at 0.05. In Kungsananon & Sampanwattanachai's (2017) research, they studied the factors affecting the imported cosmetics from foreign countries of consumers in Bangkok, which emphasized the imported cosmetic products from foreign countries. There was a possibility that the import of foreign cosmetic products into Thailand had increased the consumers' confidences, so the consumers placed importance on the brand awareness such as the advertisement to boost the brand's reliability or the words of mouths that increase the confidence in trying out the products, which affect the consumers' buying decisions.

Recommendation on adopting the research findings and the future researches

Recommendation on adopting the research findings

1. On the marketing mix factors, the entrepreneurs should emphasize the quality, safety of the product, packaging, or new technologies that apply to the products. They should design the product and set the pricing appropriated with the quantity, packaging, quality, and effectiveness of sunscreen products, such as developing the sunscreen products in various sizes or forms at different price points. There should be a promotion on discounts, exchanges, giveaways, or freebies, such as giving discount codes or coupons. On the marketing strategy, there should be advertisements, creating pictures or short videos on the brand's sunscreen products that display vital information such as the product textures, instruction on how to use, ingredients, technologies, that will provide the

knowledge for the consumers to be aware and pay more attention to the brands.

2. On the brand equity factors, there should be an encouragement for the consumers to write the product reviews, which are the reviews from the actual users, or create the collaboration with the market's influencers as the mediums for spreading the information relating to the sunscreen, which will increase the awareness of the brands and give consumers accurate information about the products. These recommendations will increase the consumers' interests, reliability, and quality perception that will be factors for buying products. Additionally, the brands should emphasize connecting with the attitude and lifestyles, such as hiring the market's influencers to help advertise the products. The influencers in marketing may be the persons with lifestyles that encounter the sunlight, dust, pollution, or have personal interests such as outdoor activities, which will help the consumers associate themselves unconsciously with the brand. There should be more emphasis on relationship building with the customers, whether using membership cards or reward cards, to collect points through the purchases. Moreover, the entrepreneurs or marketing experts should focus more on responding, listening to, and resolving the problems for consumers through all available channels, which will help raise the consumers' confidence and loyalty toward the brands.

Recommendation on the future researches

In the subsequent researches, the researchers can adopt the conceptual framework of this study to be applied to the other businesses, which share similar characteristics. There should be a study on other areas such as consumer satisfaction or behaviors that affect the buying decision. In addition, there should be an expansion of the sample group for better data analysis which will cover more areas and provide more clarity to the research findings that would be utilized as a development approach to increase the competitive advantages within the market.

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SPA MANAGEMENT AFTER THE COVID-19 PANDEMIC

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Abstract

The spa industry has been severely affected by the COVID-19 pandemic. Many spa businesses struggled with long-term impact from COVID-19 crisis. Considering as an unexpected circumstance, it is imperative that spa businesses implement the right strategy to survive in this challenging situation. Therefore, this study aims at investigating problems and challenges of spa businesses during the COVID-19 crisis, exploring the opportunities to manage problems of spa using McKinsey's 7-S framework, recommending the preparedness of spas for the post-COVID-19 phase. The McKinsey's 7-S is adopted as the main framework for achieving objectives of this study.

Qualitative research approach is adopted as the main research methodology. In order to gain deep understanding and insights, in-depth interviews were conducted for gathering data from two hotel spas in Bangkok and Khon Kaen provinces. Empirical data was analyzed based on McKinsey's 7-S Framework. The findings indicated that hotel spas encountered a dramatic customer loss and the reduced number of staffs. The hotel spas adjusted their marketing strategy to attract more domestic customers and managed insufficient staff with a job rotation in which requiring multitasking skills. In terms of post COVID-19 preparation, the hotel spas need to ensure the staffs' health for hygiene and safety reasons. Additionally, spa businesses should consider recruiting more staffs to meet customer demands in the future. This study provides useful guidance and recommendations for spas businesses to survive the COVID-19 crisis and to prepare for future incidents.

Keywords: spa management, covid-19, spa, covid-19, pandemic

Introduction

The spa business is one of the world's largest leisure industries and spas have become one of the standard facilities in luxury hotels and resorts (Cohen & Bodeker, 2008). The spa business segment is also considered as the main driver of the wellness tourism growth around the world. It contributed $3.7 trillion dollars due to the growing wellness trends (Global Wellness Summit, 2017) and the number of total wellness industry revenue in the US was estimated to increase from $5.6 billion to $11.32 trillion between 2007 to 2021 (The Statistics Portal, 2015). Among countries around the world, Thailand has been recognized as one of primary countries for spa and wellness tourism in Asia apart from being a leading holiday destination in the world. The business has been greatly supported through the cooperation of the Ministry of Public Health and the Ministry of Commerce which aim to establish Thailand as the "Health Tourism Hub of Asia" and the Wellness Capital of Asia" (Johnston et al., 2011). Despite the great support from the government sector and the rising trends of health and wellness tourism, the spa business is not always run as smoothly as expected since operators have to tackle challenges in various aspects such as the entry of new competitive spas, the development of spa service differences, and the creation of unique experience to attract targeted customers. More importantly, the spa business is more vulnerable to threats caused by reoccurring catastrophe and unprecedented pandemics like COVID-19.

COVID-19 (Coronavirus Disease 2019) was declared by the World Health Organization as a global pandemic on 11 March, 2020. Originated in Wuhan, the capital city of Hubei, China, the disease emergence occurred in late December 2019 and the disease spread rapidly across 203 countries around the globe as of 9 April, 2020, less than a month after the WHO's pandemic outbreak declaration (Association of Southeast Asian Nations, 2020). COVID-19 is caused by the same family of viruses as Severe Acute Respiratory Syndrome (SARS), an epidemic occurring during 2002 and 2003. However, COVID-19 has spread more easily and widely and caused more fatalities. Moreover, from global to local economy and from small- to large-scale businesses have been drastically impacted by the outbreak of COVID-19.

Several businesses have been forced to shut down as the current disease had led to dramatic changes in business practices and consumer behaviors such as social distancing and more time spending at home in accordance with mandatory regulations imposed by worldwide governments. Apparently, the current disease has had great impacts on tourism and hospitality sectors which are key pillars for economic growth in several countries due to the imposed disease outbreak control measures including travel restrictions and entry bans on travelers from countries with certain levels of active COVID-19 cases. According to the UN World Tourism Organization, as much as 96% of the world's destinations have implemented such measures to stem the spread of COVID-19 (World Tourism Organization, 2020). Besides the strict travel measures, people's fears and high anxiety of the novel disease have caused cancellation of planned trips, flights, and hotel room bookings. 80% of hotel rooms globally become empty amid the COVID-19 crisis (Asmelash & Cooper, 2020). Countries dependent on arrivals of foreign travelers are more vulnerable and hugely devastated by the impacts of the COVID-19 crisis (International Labour Organization, 2020) due to the sharp decline of tourists from China and other countries around the world.

The spread of COVID-19 pandemic seems unlikely to stop in the near future. All entrepreneurs and operators of businesses including hotel spas may face several problems and challenges. They cannot help adjusting their business practices and operations to the new normal of COVID-19 in order to sustain during the crisis. The businesses have put a lot of their efforts to survive by adopting various business management models to adjust their business operations in response to the COVID-19 crisis. It is important that hotel spa operators understand the underlying problems, challenges and proper ways to handle these problems during this pandemic time. One of the effective business management tools useful for tackling challenges and handling all problems emerging during the crisis is the McKinsey's 7-S framework. Therefore, it is interesting that how do the business operators handle problems or difficulties through the McKinsey's 7-S framework, especially during the emergence of the unprecedented COVID-19 outbreak which has caused much greater impacts on numerous business sectors when compared with other pandemics in the past.

Since there is limited number of research thoroughly exploring the hotel spa business after experiencing the COVID-19 crisis, this research aims to fulfill the research gaps by investigating what problems hotel spas encounter by adopting the McKinsey's 7-S framework. This research also studies how hotel spa operators handle the problems caused by the outbreak of COVID-19 through the framework of McKinsey's 7-S. In addition, the research explores how hotel spa operators adapt to survive the COVID-19 crisis and how they prepare their business for the post-COVID-19 phase.

The research questions of this study are the followings:

What problems and challenges do hotel spas encounter during the outbreak of COVID-19?

How do the hotel spas handle/manage these problems during the outbreak of COVID-19?

How will hotel spas make preparations for the aftermath of the COVID-19 outbreak?

This research will investigate problems or difficulties which two hotel spas experience during the COVID-19 crisis and study how they deal with the problems through the McKinsey's 7-S framework in order to survive this unprecedented pandemic crisis. The research will explore case example of how the two hotel spas adapt their business to the crisis and prepare themselves after the COVID-19 outbreak.

This research will explore two registered hotel spa operators in two cities in

Thailand: Bangkok, a capital city, and Khon Kaen Province, a non-capital city. In this research, in-depth interviews will be conducted to collect responses on various aspects based on the idea of McKinsey's 7-S framework from three groups of respondents including management, staff, and customers from the two selected hotel spas.

Literature review

Spa

The meaning of spa

The word "spa" was derived from the Walloon word "espa" which was the name of the Spa town in Belgium, where a remedial, thermal spring was found in the 14th century". Later, "espa" became the word "spaw" in English and eventually became the update word spa. (Miller, 1996). The term "spa" originated from the Latin phrase "sanitas per aqua" which means "health through water". In fact, the concept of spa came from the period of the Roman Empire as the soldiers tried to recover from wounds, pains and sickness resulted from their military services.

History of spas in Thailand

Around the year 1994, spas were established in Thailand in response to the demand of foreign visitors at that time (Ninnar, 2006). At the beginning, the spas were popular and fashionable among the foreign tourists and expatriates. However, spas have recently become popular among the local Thais as new alternative therapy.

At the early stage, most spas in Thailand were located in luxurious or five-star hotels. However, due to the increase in the demand of the local people in different cities. Spas are located everywhere nationwide, especially famous tourist attraction. Nowadays, tourists can visit spas at all the major tourist cities in Thailand such as, Bangkok, Pattaya, and Chiang Mai. Moreover, Thailand has also been recognized as a spa capital of Asia thanks to the unique way of delivering a relaxing atmosphere, warm hospitality, service, and Thai therapists with welcoming personalities.

Because of the increasing popularity and growth of Thai spa industry, the Thai government established a policy to promote Thailand as Spa Capital of Asia in the year 2004 by launching five-year strategic plan to establish Thailand as 'Centre of Excellent Health of Asia'. There are three key areas that the strategy focused, that were, medical services, healthcare services and Thai herbal products. Besides the 5 years strategic plan for spa as initiated by the Ministry of Public Health, Thailand Board of Investment (BOI) has executed several economic incentives for spa, wellness, and related investors supported the Thai government policy to promote Thailand as a medical tourism hub during 2012 and 2016.

In order to promote and develop the spa industry in Thailand, the Thai Spa Association and the Thai Spa Operators Association were established as the main private sectors to promote and develop. The association has established a voluntary Thai Spa Excellence Quality Standard in 2011. It is an internationally-designed audit and certification program specifically for spas, which seeks to offer regular and independent monitoring to enhance spa safety, reduce accident risks and set the highest standard of services, thereby providing an independent quality endorsement for spa. (Cohall *et al.*, 2013).

Types of spas

According to International Spa Association, there are 7 different types of spas: day spa, club spa, medical spa, mineral spring spa, resort and hotel spa, cruise ship spa, and destination spa (Quintela *et al*., 2016). Brief information of each spa is given as follows (Wisnom & Capozio, 2012):

Day spa is a business that offers a variety of professionally administered spa services to day-use clients. Day spa is open to the public and offer a la carte spa service to customers who can enjoy one or two individual treatments or a full day treatment.

Club spa is a business that offers a variety of professionally administered spa and fitness services to its membership. Club spa is emerged from fitness club looking to provide more comprehensive wellness offerings to their customers. To receive services in a club spa, you are generally required to be a member.

Medical spa is a business that offers a variety of professionally administered spa services, including medical and wellness care, to day- use clients, typically with on-site supervision by a licensed health care professional. It is generally located in a hospital. This spa offers a blend of conventional and alternative medicine therapies in a clinical setting. Medical spa can include skin injections, cosmetic dental services, and laser skin care.

Mineral spring spa is a business that offers an on- site source of natural mineral, thermal or seawater used in professionally administered hydrotherapy treatment. Some of these spas may offer only hydrotherapy treatment, whereas others may offer a wide range of spa services, lodgings, fitness, and other opportunities. It is the 'spring' that makes this spa different from other types of spas.

Resort and hotel spa is a business that operates as a division of and within a resort or hotel. It provides professionally administered spa, wellness, and occasionally, medical services primarily to guests of the establishment. Resort and hotel spas operate in a similar manner to a day spa. Famous examples of hotel spas include Banyan Tree Spa and Kempinski the Spa (SCB Economic Intelligence Center, 2018).

Cruise ship spa is a spa that operates on board a cruise ship and provides professionally administered spa and wellness services to passengers. These unique spas serve exclusively those on a cruise vacation.

Destination spa is an extended-stay resort with the primary purpose of providing guests with healthy lifestyle services. These spas have health, wellness, and 'spa-ing' as the focal point of the visit. Modern destination spas encourage stays of a week or longer, as well as provides a blending of health related activities such as spa treatment, wellness education, healthy cuisine and medical services.

Spa products and services

Spa products and services can be categorized into various types (Miller, 1999; Wisnom & Capozio, 2012) such as:

Hair services styling, cutting, coloring, scalp treatment

Nail services regular manicures, regular pedicure, oil massage for hands, feet, food spa

Facial treatments deep cleansing, exfoliation, masks, facial massage, facial nutrition, aromatherapy, layer, waxing, makeup

Body treatments hydrotherapy, exfoliation, masks, body massage, body tanning, wraps, foot spa/massage, sauna, thermal treatment

Mind therapy meditation, yoga, and relaxation classes

Fitness services personal training, general fitness and weight exercises

Educational programs nutrition counseling and stress management

Overview of Thailand's spa business

Spa business has become popularity in the past decade (Han *et al.*, 2017) due to the increasing demands of consumers to pursue a better quality of life and well-being (Quintela *et al.*, 2016). Spa business is directly associated with wellness tourism in that tourists spend some of their or leisure time) to receive the services enhancing their physical and mental well-being. The business has also contributed to Thailand's tourism sector. The overall value of Thailand's spa industry has seen a steady increase of 8% per annum during 2013-2015, increasing from 30 billion in 2013 to 35 billion baht in 2015 (SCB Economic Intelligence Center, 2018).

Spa market in Thailand has been rapidly growing for decades due to the increasing health-conscious consumers among Thais and internationals (Han *et al.*, 2017) as well as the reputation of high quality services, welcoming hospitality and inexpensive cost of living (Ministry of Public Health, 2013). These reasons consequently make Thailand be one of the largest spa destinations in the Asia Pacific region (Han *et al*., 2017). Today, wellness tourism is one of the target tourism products under the government's Thailand 4.0 policy with the aims to accelerate Thailand's future economic growth and to earn higher incomes (Klaysung, 2016).

Thailand's spa industry has started to expand clearly since 2002 both in terms of the number of service users and spa service places. Most of the spa service places in Thailand are operated by small operators (Siam Wellness Group, 2018). According to the statistics of Thai Spa Association, it showed that during the years 2008 and 2012, Thailand had about 60% of the places of business being set up in the hotels and resorts and about 40% of the places of business, which were set up as Stand Alone. Moreover, Thai Spa Association forecasted that in the future, the ratio of the place of business of the two formats would switch to 50:50 due to the Stand Alone spa which started to embark on investment in the business format and increasingly expanded to more branches. (Siam Wellness Group, 2018). In 2016, the Ministry of Public Health counted 2,053 spa establishments being legally registered. Out of these establishments, 1,790 are located in Bangkok and 263 in other regions of the country, with 3 in the northern region, 23 establishments in the north- eastern region, 113 located in central Thailand and 124 establishments in the south (Ministry of Public Health, 2016).

The total market value for spa in 2018 is estimated to be approximately 4 billion baht, growing from 2017's sum market value of 3.85 billion baht. The growth of the spa market in Thailand is resulted from increasing demand from locals and foreigners. Similar expectation is also anticipated for the spa products market. The strategy is to maintain the unique Thai spa business and products in both the therapists and Thai herbs (Thai Spa Association, 2018). This goes in line with Tourism Authority of Thailand's policy of Discover Thainess, which targets quality leisure tourists. The Ministry of Tourism and Sports anticipated that the revenue from the tourism business will be 2.7 trillion baht (Ministry of Tourism and Sports, 2018). For the local market, there is also expectation of strong growth as the economy continues to grow which results in higher income per capita and higher proportion of expenses on health related products. Moreover, people are taking better care of themselves. More than 48% of people in Bangkok use natural remedies for relaxation and rejuvenation (Kasikornbank Research, 2016). Thus, the health sector has potential positive growth.

Overview of Thailand's luxury hotel spa industry

International arrivals historically accounted for more than 60% of Bangkok total arrivals (Tourism Authority of Thailand Intelligence Center, 2016). Hotel spas provide services for a plenty of foreign guests, especially from Europe and America. The European and American guests once dominated the reservations in hotel spas; however, hotel spas are currently recording higher spa usage from Asian visitors. American and European guests still dominate bookings at Riverside Saps and Suburban Spas, located near Suvarnabhumi International Airport, accounting for 95% of total internal spa guests, referred to as those staying at the hotel. Meanwhile, due to the increase in the number of arrivals from China, the Chinese spa guests grew up by more than 26% in 2015 (Tourism Authority of Thailand, 2015). In addition, the percentage of Chinese spa guests at Downtown and Suburban Spas (other than by the international airport) accounted for 50% of total internal spa guests.

On average, between 70% and 90% of total spa guests stayed at the hotel where the spa is located. External guests, defined as nonresidential visitors to spa facilities, accounted for 10% to 30% of total spa guests, and these guests were Thai nationals or foreign expats living in Bangkok. Due to the large number of easily accessible day spas in Bangkok, hotel spas captured lower levels of external guests than hotel spas in other capital cities in Asia and The Middle East. Leisure guests historically accounted for 70% to 80% of total internal spa guests. Due to the nature of the hotel properties, Riverside Spas capture more leisure spa guests, whereas, Downtown and Suburban Spas capture a higher percentage of business spa guests. Bangkok's MICE market is improving (4.5% growth in MICE arrivals in 2015) (Health & Wellness Market Reports Bangkok, 2016).

Riverside, Downtown, and Suburban Hotel Spas, on average, realized between 5% and 10% revenue growth per year. On average, they generated between 3% and 5% of total revenue through the sale of spa retail products. Spas at the upper-end of the luxury range generated between 8% and 10% of total spa revenue through the sale of retail products. Between 20% and 40% of guests accessing Riverside, Downtown, and Suburban Hotel Spas (including guests not staying at the hotel) visit multiple times. Although Bangkok has a high number of spas, guests of Hotel Spas, internal and external, tend to demonstrate loyalty. (Health & Wellness Market Reports Bangkok, 2016).

In Thailand, one of the best hotel spas is The Spa at Lebua at State Tower, the winner of Thailand's Best Hotel Spa in both 2018 and 2019, rewarded by the World Spa Awards. Meanwhile, in 2016 and 2017, Anantara Spa at Anantara Siam Bangkok Hotel was the winner of Thailand's Best Hotel Spa in the World Spa Awards.

Spa business standards before and during the COVID-19 outbreak

Standards for the spa business are set up and identified into five elements as follows Ministry of Public Health (2014): 1) Service quality: This element will examine if the spa business provides customers with good services and quality as well as enhance customer satisfactions. 2) Spa staff: This element will examine if the spa personnel have appropriate qualification to provide standard services and customer satisfactions. 3) Tool and equipment: This element will examine if the spa business provides tool & equipment in good quality and safety for customers. 4) Organization and management: This element will examine if the spa business has effective working procedures and further service development. 5) Environment: This element will examine if the spa business provides customers with good environment and customer well-being.

During the outbreak of the COVID-19 disease, spas are used with restrictions in accordance with relevant national guidelines. In particular, the following measures should be in place (World Health Organization, 2020):

• A maximum number of persons must be determined to ensure adequate physical distancing, and this maximum number should be displayed prominently for guests and users of the facility.

• Individuals using these facilities should follow national and/or local requirements for wearing of fabric masks in public settings such as these facilities.

• Each facility should follow the ventilation and air conditioning recommendations as described earlier in the document. It should be noted that in steam baths, ventilation is normally minimal, and therefore extra attention should be paid to physical distancing by restricting number of users, hygiene, surface cleaning and disinfection.

• Guest should have easy access to facilities for hand hygiene (soap and water and alcohol hand rub), especially in toilet and changing room areas.

• Towels provided must be for single use only. Provide a bin for guests to place their towel after use for laundering.

• Drinking water should be provided in containers for individual use.

• Changing rooms should be equipped with disposable tissue dispensers, disinfectant materials and containers with lids for waste.

Cleaning staff should clean and disinfect showers, changing rooms, toilets and high touch surfaces such as door handles, toilet handles, and faucet handles several times per day, depending on the frequency of use of these areas.

Impacts of the COVID-19 outbreak on Thailand's tourism industry

Southeast Asian countries, especially Thailand are particularly exposed to events in China and the rest of the world through trade and tourism. Thailand also relies heavily on tourism and electronics and appliances for export earnings and exports account for more than two-thirds of GDP (Harvard University, 2018).

Due to the COVID-19 pandemic, the number of Chinese tourists that visited Thailand in March 2020 was only 57 thousand compared to 985 thousand in March 2019. In that period, the total number of international tourists in Thailand decreased by 76.40 percent compared to March 2019 (Statista Research Department, 2020). Thailand has been severely affected as the country depends heavily on the visits of Chinese tourists. From January – March, 2020 the number of foreign tourists was 6.69 million people, which is 38% less than 2019. The income generated from tourism, at 330 billion baht, is 40% less compared to the same period in 2019 (Ministry of Tourism and Sports, 2020). Tourism in April was at a complete stand-still with zero arrivals. The total income generated from international tourists was 333 billion baht in the first three months of 2020, down from 557 billion baht one year earlier, a decrease of more than 40%. (International Labour Organization, 2020).

In 2019, Thailand's labor force participation rate was at 67%, with a very low unemployment rate of 0.7%, total employment was 37.6 million, of which 45.6 per cent were women. However, after the outbreak of the COVID-19 pandemic, the unemployment increased to 34,000 persons, a decline of 59,000 persons employed and an increase of 92,000 in the number of persons outside the labor market from the fourth quarter 2019 to first quarter 2020 (International Labour Organization, 2020). The total number of work hours of labors in Thailand dropped by nearly 6% from the last quarter 2019 through first quarter 2020, equivalent to the loss of 2.2 million full-time jobs (assuming a 40 hour working week). The hours actually worked per week in Thailand declined in 2020, from both fourth quarters in 2019 and comparing the same first quarter in 2019 (International Labour Organization, 2020).

The decline in tourism numbers and revenues was across the board in terms of origin countries, but the largest decrease was resulted from the decline in tourists from China. According to data from the Ministry of Tourism and Sport of the Government of Thailand, also the total income brought by international tourists declined, corresponding to 293 million baht in the first two months of 2020, down from 381 million baht one year earlier, a decrease of more than 23% (International Labour Organization, 2020).

Thailand' s tourism sector, which accounts close to 15 percent of GDP, has been severely impacted with a near cessation of international tourist arrivals since March 2020. Finally, the mobility restrictions imposed in response to the outbreak, while critical to flattening the infection curve, has severely dented private consumption, particularly for retail and recreational services.

McKinsey's 7-S framework

Historical development of the McKinsey's 7-S Framework

The McKinsey's 7-S Framework was created during a meeting of four McKinsey & Company's consultants: Tom Peters, Robert Waterman, Richard Pascale, and Anthony Athos in 1978. In 1980, the McKinsey's 7-S concept was introduced in 1980 in the article entitled "Structure Is Not Organization", published in *Business Horizons* (Waterman *et al*., 1980). Later, the framework appeared in "The Art of Japanese Management" published in 1981 and investigated by Pascale and Athos who studied the huge success of Japanese businesses (Chimera Consulting, 1999).

The McKinsey's 7-S Framework is one of a managerial tools developed to get a structural approach to handle organizational problems, especially efficiency. The framework is also suited to analyze an organization's current situation, a proposed future scenario, or identify gaps to reach an organization's desired state (Waterman, 1982). The framework consist of seven essential elements that make up an organization. The elements include Structure, Strategy, Style, Systems, Skills, Staff and Shared values.

Seven Elements of McKinsey's 7-S Framework

The seven elements include strategy, structure, systems, style, staff, skills, and shared values (Waterman *et al*., 1980). The elements are also classified into "Hard S" and "Soft S". The 'Hard' elements consisting of strategy, structure, and systems are easy to identify or recognize in an organization since they are often documented in a corporate plans, organizational charts, and strategy statements. In addition, management can influence these factors directly (mindtools.com, 2011). Meanwhile, the 'Soft' elements including skills, style, staff, and shared values are harder to identify and more intangible. They seldom appear in corporate publications (Pascale & Athos, 1981). The factors are more influenced by a company's culture (mindtools.com, 2011). The following is a description of the seven elements of the McKinsey's 7-S Framework.

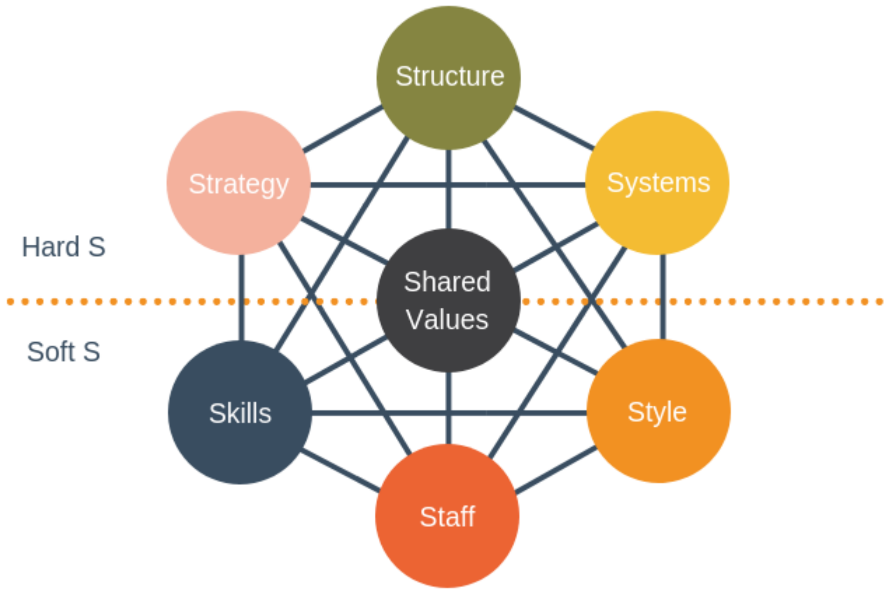

Figure 1 McKinsey's 7-S Framework (Waterman *et al*., 1980)

Strategy

Strategy refers to positioning and actions taken by an organization in response to changing external environment or to maintain and build competitive advantages over competitors (Pascale & Athos, 1981; Peters & Waterman, 1982; Kaplan, 2005). Strategy is also defined as the way how to allocate an organization's resources to achieve goals and to improve its position in order for maximizing strengths and gaining success (Crew 2002). Strategy of an organization needs to be well communicated and strongly tied throughout the organization. If organizational operations are unaligned with the organization's strategy, it definitely brings about strategic failure (*Johnson et al*., 2008).

Structure

Structure refers to distribution of authority, tasks, and reporting relationships within an organization (Kaplan, 2005). Organizations have different structures dependent on the organizations' goals and cultures (Waterman *et al*., 1980). In terms of decision making authority, it is essential that a firm makes strategic decisions which properly divide its resources, capabilities, and competences in competitive environment (Nemati *et al*., 2010). The type of organizational structure can also be referred to decision power distribution: centralization or decentralization. Considering decentralization, the vertical decentralization form is delegating decision-making rights to lower levels of the organization whereas the horizontal decentralization form is distributing decision-making authority equally across an organization. Moreover, structure is also referred to a hierarchical or flat organization. The hierarchical structure is a very centralized and top-to-down decision making distribution while the flat organization is more decentralized. The structure is also how an organization's units relate to each other and how departments or teams, assignments or tasks, and responsibilities are coordinated (Waterman *et al*., 1980). An efficient organization needs to have a clear structure which coherently establishes its sets of boundaries and internal units within the organization communicate and collaborate well (Hansen & Wernerfelt, 1989).

Systems

Systems refer to routine processes and procedures that an organization's staff members follow. Examples of organizational processes and flows are information systems, capital budgeting systems, manufacturing processes, quality control systems, and performance measurement systems (Waterman, 1982). Systems show how a firm works and gets things done and systems are seen as the manual of organizational procedures (Pascale & Athos, 1981). From an organizational perspective, systems can be used to establish organizational focus, cohesion, learning and execution of selected strategies (Shang & Seddon, 2002). Meanwhile, from a managerial perspective, systems can be used as an instrument for making decisions like resource allocation and monitoring and assessing a firm's operations (Shang & Seddon, 2002). Systems need to be evaluated, maintained, and developed to create a firm's value and efficiency. A firm with well-established systems that are evaluated, developed, and maintained to suit its strategic purpose has competitive advantage (Irani, 1999). Moreover, an importance of the evaluation of a firm's existing systems is the systems respond to the firm's overall goals, not the individual needs of employees. (Shang & Seddon, 2002).

Style

Style refers to top or senior management's leadership styles. In other words, the style of leadership means how top or senior managers spend their time, what they focus attention on, what questions they ask of employees, and also organizational culture (Kaplan, 2005). What kind of decisions top managers make and how they allocate, combine, and develop resources has a great impact on corporate culture (Waterman *et al*., 1980). Leadership styles also have a huge impact on the coherence of overall strategy (Waterman, 1982). Leaders or managers can create a certain environment based on the decisions they make and leadership behaviors or patterns can shape organizational culture. For example, if a leadership style is collaborative, which means staff members are given freedom for decision making and providing feedbacks, it is easier for leaders to gain engagement from staff members who have established their trust towards the management through this pattern of leadership. It is clear that the importance of leadership styles is how leaders apply strategies to ensure trust and support among staff members and how they manage individuals to be counted for tasks or projects (Erskine, 2013).

Staff

Staff refers to both the staff itself and demographic characteristics of people within an organization (Drucker, 2007;

Pascale & Athos, 1981). Staff is also defined as people's backgrounds and competencies and an organization's staff recruiting, selecting, training, managing, and promoting processes (Kaplan, 2005). This staff element can be linked to the Human Resources function of an organization. Recruitment processes should find suitable employees who have the right commitment and proficiency to match an organization (Ulrich *et al*., 2008). An organization has to hire staff members, train them well, and assign them to right jobs. Other key issues in this element include motivation, recognition, and reward (Crew, 2002). Motivation tools can be related to tangible rewards such as financial means and intangible incentives such as professional development and knowledge enhancement (Gottlschalg & Zollo, 2017). It is also evidently important for a firm to find and develop staff members to match overall strategy in order to achieve the firm's goals. Staff should also have right mindset towards a firm and feel motivated and committed to reach the firm's goal. Motivation tools and recruitment processes are important procedures for staff alignment with a firm.

Skills

Skills refer to distinctive competencies or capabilities of an organization and key personnel who carry out the organization's strategy and the ways of how an organization differentiate themselves from its competitors (Pascale & Athos, 1981; John, 2005). The skills element also refers to what an organization does best along dimensions such as people, management, processes, systems, technology, and customer relationship (Waterman, 1982; Kaplan, 2005). In addition, skills are defined as capability in organizational management by entire employees, not individual capability (Peters and Waterman, 1982). To create capabilities and competencies, education and training is fundamental (Senge, 1990). Training and development are essential in ensuring personnel how to do their jobs and keep up to date with the latest techniques and technology (Crew, 2002; Fox, 2002).

Shared values

Shared values refer to the core or fundamental set of values shared within an organization and serve as guiding principles of what is important including vision, mission, and value statements which provide a broad sense of purpose for all employees (Pascale & Athos, 1981; Kaplan, 2005). In fact, the core values of an organization, as shown in its corporate culture and general work ethic, were called "superordinate goals" when the framework was first developed (Waterman *et al*., 1980). This Shared Values element is essential to develop all other elements in the framework; that is, if Shared Values change, all other factors are directly affected (Waterman, 1982). Shared values are expressed at high levels of abstraction. Shared values can mean very little for outsiders who do not know the organization well; however, they are significant or mean a lot for employees of the organization.

Research methodology

This research uses a qualitative method to gain deep understanding and insights on problems, challenges, management, and preparation of hotel spa management and operations during the COVID-19 crisis. The case study research design is often adopted in an exploratory or descriptive research and answers questions including "How", "Why", and "What" (Ghauri & Gronhaug, 2011). As a result, the case study is suitable for this research in order to get both a clear and accurate focus and in-depth understandings of hotel spa management during the COVID-19 crisis. In this study, a case study of two hotel spa will be conducted.

One of appropriate sampling techniques for qualitative research is purposive sampling (Boenhnke, 2011). The technique suggests researchers to choose the samples with actual experiences. The selected samples in this research possess appropriate knowledge and real experiences contributing to the completion of spa management during the crisis.

In this study, we use purposive sampling to sample two hotel spas to gain insight on one spa in a capital city, i.e., Bangkok and a non-capital city, Khon Kaen province. Both Bangkok and Khon Kaen are similar in terms of a gateway for both local and foreign tourists. Bangkok and Khon Kaen have an airport which can accommodate Thai and international passengers. Khon Kaen, in additional, has been developed and promoted to be one of MICE or Meetings, Incentives Travel, Conventions, and Exhibitions city centers besides Bangkok.

Research populations and samples

The population are the all spa businesses located in the 4-5 star hotels located in Bangkok and Khon Kean provinces. The spas have to be operated before, during, and after the COVID-19 outbreak.

The samples are the two spa cases. One is in Bangkok, and another one is in Khon Kaen. Within the case, the purposive sampling technique will be used to recruit potential interviewees. In-depth interview on a one-on-one basis is used to collect data from the samples in response to the research objectives. In general, interviews consist of data of meaningful expressed through words, pattern and impacts (Saunders et al., 2009).

Total of 14 respondents will be sampled based on convenient basis. Respondents will be divided into three groups including 1 hotel spa manager from each spa, 3 hotel spa staff from each spa, and 3 customers from each spa. Hotel spa managers and staff have to be on duty before, amid, and after the spread of the COVID-19 pandemic.

Research instrument

The interview contains open-ended questions based on the McKinsey's 7-S Framework. Open-ended questions enable respondents to include more information including feelings, attitudes, and understanding of issues (Kothari, 2004); therefore, they are useful for researchers to collect qualitative data in order to gain a better understanding of certain issues and more insightful interpretation of research results. Based on the McKinsey's 7-S Framework and the situation of the COVID-19 crisis, the open-ended questions in the in-depth interview are developed from Gaspar (2017), Chartered Institute of Internal Auditors (2015), mindtools.com (2011), and The Organizational Strategist (2011).

The interview questions are divided into two sections as follows:

Section A

This section contains the open-ended questions asking the respondents about their position in the organizational structure, their roles or responsibilities, and their total years of work experience among hotel spa management and staff. For hotel spa customers, this section contains the questions asking about general demographic information including gender and age.

Section B

This section contains questions based on the McKinsey's 7-S Framework in response to the research objectives: 1) problems and challenges experienced by hotel spa managers, hotel spa staff, and hotel spa customers during the COVID-19 outbreak, 2) ways to manage/handle the problems during the COVID-19 outbreak, and 3) preparations of hotel spa managers, hotel spa staff, and hotel spa customers for the aftermath of the COVID-19 outbreak.

Data collection

The primary data was collected from in-depth personal interviews administered through open-ended questions based on the McKinsey's 7-S Framework. The key informants included hotel spa managers, hotel spa staff, and hotel spa customers from two hotel spas in a capital city, Bangkok, and a non-capital city, Khon Kaen Province. To gather the data, the interview was recorded by note taking, voice, and visual recording if agreed by the respondents. Data collection was conducted during November 2020 – December 2020 (after the outbreak of COVID-19 or after the hotel spa reopening). In addition, the personal interviews on a one-on-one basis were conducted in accordance with the World Health Organization's preventive measures including hand and respiratory hygiene and physical distancing for preventing transmission of COVID-19 (WHO, 2020). The researcher and the respondents had to wash hands with soap or alcohol-based hand-rub before and after the interview, wear a face mask throughout the interview, and keep a distance of at least 1 meter between each other during the interview.

Data analysis

The primary data collected through the in-depth personal interviews was transcribed and analyzed based on content analysis which is a systematic replicable technique for compressing many words of text into fewer content categories (Krippendorf, 1980). Since the open-ended question interview approach was applied in this study, the interviewees were able to fully express their answers in as much details as they want, so a comprehensive data coding process was necessary. In fact, coding is a way of developing and refining interpretations of the data in qualitative research (Charmaz, 2014). The data coding purpose is to make categories and concepts become smaller analyzable units by compressing extensive data sets in a systematic way. The content from in-depth interviews of the respondents was analyzed through the content analysis.

Research findings

The names of all in-depth interview respondents including hotel spa managers, staff, and customers were not revealed. The hotel spa manager in Bangkok was referred to as "M1" and the hotel spa manager in Khon Kaen was referred to as "M2". The hotel spa staff in Bangkok were referred to as "S1, S2, and S3" and the hotel spa staff in Khon Kaen were referred to as "S4, S5, and S6". The hotel spa customers in Bangkok were referred to as "C1, C2, and C3" and the hotel spa customers in Khon Kaen were referred to as "C4, C5, and C6".

Problem management of spas during COVID-19 crisis

7-S Elements	Problems	Management
1. Strategy		
Bangkok	•Loss of international spa customers from the Middle East and some Asian countries	•Adjust marketing strategies and offer special deals to attract more domestic customers
	•Customers became not confident with safety of close-contact spa service	•Assuring customers of spa service safety during COVID-19 with the SHA certificate
Khon Kaen	•Temporary hold on the ongoing Traditional Esan Massage project to create Khon Kaen's spa identity	•Stay in touch with project organizers through LINE app to get updates about the project resuming
	•Customers became not confident with safety of close-contact spa service	•Assuring customers of spa service safety during COVID-19 with the SHA certificate
2. Structure		
Bangkok	•Spa staff were required to work across department due to the decreased number of hotel employees and they were unfamiliar and unconfident with a security guard role	•Spa manager kept encouraging the spa therapists and emphasized their personal strengths to make them feel confident and keep them patient with their new task
Khon Kaen	•Spa staff were required to work across department due to the decreased number of hotel employees	•All spa staff normally stand by to replace one another when someone is required to help another department
3. Systems		
Bangkok	•Suspension of web-based spa management application due to limited budgets	•Use a manual system by writing spa customer bookings and staff schedules on paper
Khon Kaen	•Spa receptionist sometimes misses spa customer phone calls because he needs to do other tasks and cannot always stand by at the spa	•Spa customer calls are automatically transferred to the hotel's front desk when the spa receptionist is away in order to receive all incoming spa customer calls

4. Shared Values		
Bangkok	•Shared values remain the same as the pre-COVID-19 phase, except some unaccustomed behaviors of Thai customers such as late arrival	•Maintain commitment to the global etiquettes to offer customers the best service experience, keep customer satisfaction a top priority, and enhance service quality by double to meet domestic customers' expectations
Khon Kaen	•Shared values remain the same as the pre-COVID-19 phase such as focusing on customers	•Hold the shared values principles including keeping customers a top priority and maintaining both the hotel's spa standards of excellence and the spa industry's required standards.
5. Style		
Bangkok	•Lack of face-to-face communication with staff during temporary spa closure	•Devoted to staying in touch with staff through the LINE application to give encouragement to staff
Khon Kaen	•Lack of face-to-face communication with staff during temporary spa closure	•Devoted to staying in touch with staff through the LINE application to give encouragement to staff
6. Staff		
Bangkok	•Spa therapists have workload due to the insufficient number of staff •Spa staff became uncertain about career and financially insecure	•Make a phone call to other available therapists who take leave of absence without pay to help on a busy day •Keep communicating with staff to encourage them during temporary closure and continue to provide employee benefits such as free 3 meals and monthly relief grants to ease staff's financial burdens
Khon Kaen	•Spa staff became uncertain about career and financially insecure	•Keep communicating with staff to encourage them during temporary closure, provide employee benefits such as free 2 meals and protective equipment, and hold special events to appreciate staff's hard work and dedication
7. Skills		
Bangkok	•Lack of actual work practice and discontinued trainings cause spa therapists to forget some massage postures and steps	•Allow spa therapists to work part-time jobs at other spas in order not to lose skills during temporary closure and receive skills retraining from senior therapists after reopening
Khon Kaen	•Only spa receptionist is unable to provide information of spa services and products	•Read through all details in a spa service brochure and study about all products and services

Preparations of spas for the aftermath of COVID-19

Hotel spa in Bangkok

The hotel spa respondents stated that they have to rely more heavily on domestic or Thai customers after the COVID- 19 crisis. They need to put more emphasis on publicizing their products and services through channels, particularly social media such as Facebook and Instagram in order to raise customers' awareness of the hotel spa. They also prepare to run sales promotions offering special deals and discounts more frequently to attract Thai customers to use spa services and share their hotel- standard spa experiences to friends or acquaintances.

"We expect that Thai customers will know more about our hotel spa through word of mouth after we promote more on social media," expressed by M1.

Moreover, since Thai customers have become a major customer group, they prepare to learn more about preferences, needs, and expectations of spa goers in Thailand in order to adjust services to meet the Thai customers' needs and expectations. The hotel spa's staff also plan to upskill to provide a wide range of massage and treatments which are mainly for relaxation purposes.

"I'd like learn about therapeutic or remedial massage to be different from other spas because our hotel spa mainly provides relaxation massage and treatments," expressed by S1.

"Apart from the spa receptionist's role, I'm now capable of only foot massaging and facial and body scrub treatments. I want to learn more about Thai or deep massage and want to get certified," expressed by S3.

Hotel spa in Khon Kaen

The spa manager stated that the most important thing of the hotel spa to prepare is the number of spa therapists to serve the possible increase of spa customers in the future. In case that the number of customers increases in the post- COVID- 19 phase, the hotel spa considers hiring more staff to work on a part- time basis. Moreover, part- time therapists are also required to undergo intensive trainings to meet the hotel spa standards of excellence apart from other common qualifications.

"Currently, there are totally 142 hotel employees. Due to the decreased revenues, the hotel can't hire full-time staff over 142 people. New employees have to work part-time only," expressed by M2.

The two spa therapist respondents stated that in preparation for the post-COVID-19 phase, it is necessary to maintain good health and the best sanitation practices such as regular handwashing and mask wearing because safety has become customers' top of mind after the pandemic outbreak.

"I will have to do exercises regularly in order to keep good health and to make customers feel confident and safe from using our spa services," expressed by S4.

"Before the COVID-19 outbreak, customers didn't mind when we had a little cough. But during the current pandemic outbreak, only a little cough can scare off customers," expressed by S5.

Managerial implication

As for managerial implications, the findings from this research suggested that the hotel spas have adapted by means of rethink, reduce, revive, reskill, and retain. Rethink means to shift its focus to Thai customers whom the hotel spas have to currently rely on or pay more attention to and to adjust products and services to meet their needs and expectations. Reduce means to cut down unnecessary operating costs and to be able to perform tasks with the decreased number of staff during the COVID- 19 crisis. Revive means to bring back confidence of customers with hygiene and health safety of spa services and also confidence of staff with their career. Reskill means the hotel spa staff need to learn other new skills, not only job- specific skills since a job rotation scheme is necessary to be implemented during the COVID- 19 crisis. Retain means to keep staff who are valuable assets to deliver products and services by providing them with various forms of support and benefits and to keep domestic customers' satisfaction as a top priority.

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EXAMINING CHINESE TOURISTS' TRAVELING BEHAVIOR ENGAGED WITH CULTURAL TOURISM IN THAILAND

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Abstract

Cultural tourism can bring about challenging viewpoints and adapting to accommodate the requirements of visiting travelers. This work examines the behavior of Chinese tourists who are engaged with cultural tourism in Thailand This work examines the traveling behaviors of Chinese tourists engaged with cultural tourism in Thailand and offers a proposal for cultural tourism management to accommodate with the behaviors. The examination of the large number of tourists' behavior arriving from mainland China with a specific idea provides plenty of information for the cultural tourism management to develop a strategy and a whole new practical refinement for accommodating tourists.

Keywords: Behavior, Chinese Tourists, Culture, Management, Planning, Traveling

Introduction

Culture is the beliefs and values that identity the people, their custom, and traditional practices that reinforces the ideas for living and lifestyle. In the field of tourism, the local culture can sometimes be challenged on certain viewpoints, tested on the principles uphold, and may have to adapt at times to accommodate the trade and commerce from the demand of visiting travelers (Ali, Ryu and Hussain, 2016). The record number of foreign travelers coming to Thailand has brought about some contemporary mixed emotions for the locals to provide the very best in offering that ideal service that would leave a lasting impression on them. It's vital to promote a message for goodwill and trust for all sides to make the idea of cultural tourism viable in the long run as it's the source of livelihood for some stakeholders (Engeset and Elvekrok, 2015). There has been investment made in the traveling and communication infrastructure by the government and organizations in order to cater to the needs of the large number of tourists vacationing in Thailand. Educational curriculums and training have been updated to ensure that the vocation is geared towards making the travelers from mainland China feel welcomed and secured. Tour sites have made the arrangements for Chinese visitors to gain that extra value in purchasing a standard item of service or product. With regards to the infrastructure arranged to support cultural tourism all things need to be ensured that the events taking place meet the well-being and health of the locals as well as the travelers (Zhao and Lin, 2014). However, the question of the Chinese tourists' traveling behavior going through the route of Thai cultural tourism has not yet been fully investigated.

Research aim & questions

The intention of this research is to examine the traveling behaviors of Chinese tourists who are engaged with cultural tourism in Thailand. In addition, the study offers a proposal for cultural tourism management to accommodate with the behaviors displayed. The following questions have been asserted to obtain a proper investigation:

1. What are the traveling behaviors of Chinese tourists taking part in cultural tourism?
2. What are the practical guidelines in cultural tourism management to accommodate with the traveling behaviors of Chinese tourists?

Literature review

Traveling behavior of cultural tourists

The political, social, economic, and technological background of foreign tourists are uniquely diverse in their own ways which provide them a combination of making sense of things from different viewpoints that give them a better purpose for vacationing which can be a sharing experience with others as a source of information to assist in decision making for traveling (Malik, Madappa and Chitranshi, 2017). The environmental living condition that stems from being heavily influenced by the government or elemental factors often shapes how the person thinks and carries out his/her beliefs in practical action that influence the number of times taking a trip, using a specific amount of days to spend on their vacation, and selecting a certain period for traveling (Boland and Shirlow, 2016). Individuals growing up in a highly developed nation have access to channels of education and public media broadcasting which provide updated information to get some understanding about other nation's culture, what kind of accommodations are provided, and figuring out the best transportation that will get them into that country (Murtagh, Boland, and Shirlow, 2016). The event organizers and planners will have to keep in mind that the foreign travelers may know more than the tour guide and even the locals themselves especially when it comes to the traveling preferences that stems from the number of family members or close friends that are accompanying them. To maintain professional credibility and sincere passion the approach for making the tour for the foreign visitors in great hospitality care on behalf of the tour operators will have to seek for ways to add value into the service or in the marketed product that can give travelers a proper method in planning and organizing their own journey (Iverson, 2010). Some level of stewardship needs to be in placed in order to prevent the culture's beliefs and values from being another exploited commodity that manipulates people into making an expensive purchase. In a sense, tourists from another country should not be 'taken for a ride' just to get some money squeezed out of their pockets otherwise it creates a bad impression that would lead to negative blogging for other travelers to be cautious of; let other choices of vehicles be available for traveling to various destinations along the route (Kalman, 2017). Cultural tourism can act as a vehicle promoting international relations and a good understanding on how to work together for great intentions toward peace and prosperity (Ruhanen, 2013). The tourist sites promoting cultural tourism can be a positive catalyst for alleviating differences between people, creating a bridge that connects people together, brings about a sense of accountability on others to be responsible for their own actions, and instilling appreciation to uphold values in universal camaraderie (Bramwell, 2011). Models for cultural tourism are always going to be challenged as the systems in place can only be efficient and effective as the people who put in their efforts of producing the expected values. Things that are disturbing to the eyes and shocking to the heart such as depletion of natural resources, waste and pollution going out of control, and deviant behaviors that make others uncomfortable can happen abruptly despite strong attempts to prevent them (Almeida, Costa and da Silva, 2017). However, the feelings can all be forgiven and commendable when action is taken to reinstate a proper balance for putting things at ease for everyone to have a strong confidence that the events are designed to be in concerned for the best interests for all (Yuan, 2013).

In practice for guideline management of cultural tourism

With the idea of cultural tourism in gathering people from different parts of the world to enjoy the experience with one another in unison organizers of the events must ensure that the spiritual elements become the main point over the technical and material elements (Zoltan et. al., 2015). In the midst of wonder and delight the events aim for travelers to be enamored with the heritage and customs on how the local people go about their ways blending the practical beliefs in their social settings and as part of their work functions (Oikonomopoulou et al., 2017). Most important is that the foreign travelers are receiving some valuable education and learning opportunities that give a greater meaning of dignity and respect for others which they can apply back in their home nation (Ross et al., 2017). Cultural tourism requires a strong support for maintaining itself to be sustainable for all stakeholders involved. There's a call for more practical ways that are innovative and creative for the sake of restoring the cultural values that enable the locals to have the time and space for finding solutions to a particular problem and to resolve matters for the benefit of moving forward (Marianne, Bickel and Harrill, 2017). The dynamics within cultural tourism include different groups and individuals looking to gain something that can fulfill their spirit, life, commercial income, belief or relationship, therefore all group members have to collaborate in coordination to ensure that there's an appreciation for providing the platform for being immersed in the positive changes (Kortegast and Kupo, 2017). Not all plans for cultural tourism will be followed accordingly nor will it guarantee that the mission objectives have been accomplished. Event organizers and planners will need to have a new sense of direction when the changes in attitudes and behaviors occur amongst the foreign travelers and the stakeholders involved so that the concept and ideas that go into cultural tourism don't make things redundant which could stagnate the market (Tomlinson-Clarke and Clarke, 2010).

Methodology

The study was conducted in the Chiang Mai cultural tourist spots with questionnaire that targeted 250 Chinese travelers who were taking part in the activities and event. These visitors were asked about the following with regards to their actions for traveling:

1. Frequency of traveling
2. Favorite season for traveling
3. Travel preferences
4. Traveling in numbers to the northern region of Thailand
5. Method in planning and organizing
6. Source of information used for traveling plans
7. Accommodation chosen
8. Number of days used for traveling
9. Traveling purpose
10. Tourist sites visited
11. Transportation used to enter the northern region
12. Vehicles Used for Traveling to Various Destinations

The feedback gathered from their response was utilized as information for "the practical guidelines for management to accommodate with the behaviors".

Results

Traveling behaviors of Chinese tourists

The results based on the traveling behavior of Chinese tourists are as followed:

Table 1 Frequency of traveling by Chinese respondents

Frequency of traveling	Total	Percentage
1. Rarely traveled / visited a few times.	5	5.1
2. About 2-3 times in a year	13	13.3
3. Once a year	20	20.4
4. 2-3 times a year	46	46.9
5. 4-5 times a year	9	9.2
6. More than 5 times a year	5	5.1
Total	**98**	**100.0**

46.9% of Chinese tourists travel 2-3 times a year. 20.4% of the mainland residents travel once a year. About 13.2% travel 2-3 times in a year, while only 9.2% travel 4-5 times a year. 5.1% rarely travel and travel more than 5 times a year.

Table 2 Favorite season for traveling by Chinese respondents

Favorite season for traveling	Total	Percentage
1. Not specific to a season / every season.	89	89.0
2. Winter	8	8.0
3. Summer	3	3.0
Total	**100**	**100.0**

There is no particular season chosen as the favorite time of year for traveling (89.0), most of them will come to travel in the northern region. There's a very small number traveling in the winter (8%) and summer (3%).

Table 3 The travel preferences of Chinese respondents

Travel preferences	Total	Percentage
1. Non-festive days	72	72.7
2. Sunday/non-holiday	2	2.0
3. Public Holiday / Long Weekend	18	18.2
4. Period of the festival - traditions.	1	1.0
5. Other	6	6.1
Total	**99**	**100.0**

Based on their travel preferences, 72.7% of Chinese tourists mostly choose to make trips that fall on the ordinary days. 18.2% choose to travel on the public holiday/long weekend. A very small number of Chinese tourists travel on a Sunday/non-holiday (25) and festival periods (1%).

Table 4 Traveling in numbers to Northern Thailand of Chinese respondents

Traveling in numbers to Northern Thailand	Total	Percentage
1. Come alone	11	11.0
2. Come with spouse	22	22.0
3. Come with the family.	34	34.0
4. Come with friends	33	33.0
Total	**100**	**100.0**

When traveling in numbers to the northern region, the Chinese mostly prefer to travel with family (34%) and with friends (33%). 22% do travel with their married partners while only 11% prefer to travel alone.

Table 5 Plan and organization of tour in the upper north based on the Chinese respondents.

Method in planning and organizing	Total	Percentage
1. Plan and organize your own tour.	43	43.4
2. You and your spouse plan and organize your trip together.	17	17.2
3. You and your travel friends plan and organize tours.	31	31.3
4. Use the services of people who know each other.	8	8.1
Total	**99**	**100.0**

For making plans and organizing, the Chinese travelers mostly plan and organize their own tour (43.4%) and make traveling plans with their friends (31%). Only 17% plan and organize with their married partners and 8% use the services of people who know each other.

Table 6 Source of information for northern tourism planning based on the Chinese respondents

Source of information used for traveling plans	Total	Percentage
1. Children	9	9.0
2. Friends / Colleagues	40	40.4
3. Radio / Television	2	2.0
4. Company Travel	8	8.0
5. Travel Magazine	9	9.0
6. Mobile Apps	17	17.0
7. Tourist Information Center	30	30.0
8. Websites	19	19.0
9. Poster/flyers	4	4.0
10. Other	2	2.0

When it comes to using the source of information for traveling plans friends (40.4%) and the tourist information center (30%) are chosen more. Some do choose mobile apps (17%) and websites (19%) to get the sources. The least chosen range from children (9%) and travel magazine (9%), company travel (8%), poster and flyers (4%), and radio/television (2%) and others (2%).

Table 7 Accommodation used in this trip by Chinese respondents.

Accommodation chosen	Total	Percentage
1. Hotel	72	72.0
2. Resort	12	12.0
3. Guest house	8	8.0
4. Apartment / Dormitory / Condo	10	10.0
5. Homestay	6	6.0
6. Other	3	3.0

For accommodation, most of the Chinese travelers are residing in the hotel (72%). Other choices that are not quite popular to stay are the resorts (12%), apartment/dormitory/condo (10%), guest house (8%), and homestay (6%).

Table 8 Duration of travel by Chinese respondents

Number of days used for traveling	Total	Percentage
1. ≤2 days	4	4.0
2. 3–4 days	10	10.1
3. 5– 6 days	46	46.5
4. 7–8 days	15	15.2
5. ≥9 days	24	24.2
Total	**99**	**100.0**

Minimum 1 day *Maximum 17 days*
Average of 6.97 days *Standard Deviation of 3.501 days*

46.5% of Chinese travelers are more likely to stay for about 5-6 days, while 24.2% would stay for more than 9 days. Some tourists are willing to stay for 7-8 days (15.2%) and 3-4 days (10.1%). Only 4% would stay at less than 2 days.

Table 9 The purpose of taking the trip by the Chinese respondents

Traveling purpose	Total	Percentage
1. To relax and refresh the body / mind.	56	56.0
2. To learn and understand the way of life / culture / beliefs of the community.	27	27.0
3. To admire the beautiful nature and landscape.	48	48.0
4. It is an opportunity to be with your family / friends.	44	44.0
5. To seek new business channels/Looking for new products.	2	2.0

Over half of the Chinese visitors' purpose of traveling is to relax and refresh the body/mind 56%. Other reasons are roughly concentrated on admiring the beautiful nature and landscape (48%) and having the opportunity to be with their family/friends (44%). 27% travel in the northern region for the aim of learning and understanding the way of life/culture/beliefs of the community. Only a low 2% come with the intention of seeking new business channels and look for new products.

Table 10 Tourist sites visited by Chinese respondents

Tourist sites visited	Total	Percentage
1. Ecotourism	31	31.0
2. Sightseeing on arts	18	18.0
3. History	13	13.0
4. Health tourism	33	33.0
5. Recreation and leisure	1	1.0
6. Cultural tourism	33	33.0
7. Natural scenery	51	51.0

51% of the Chinese travelers have visited natural sites. 33% have visited sites dealing with health and culture. 31% of the visitors have taken part in ecotourism. 18% have gone sightseeing places that deal with the arts while 13% have went to the historical sites. 1% have only visited areas that deal with recreation and leisure.

Table 11 Transportation used to enter the northern region of Thailand by Chinese respondents

Transportation used to enter the northern region	Total	Percentage
1. Travel by air	93	93.9
2. Company tour bus	2	2.0
3. Private car	2	2.0
4. Rental van	2	2.0
Total	**99**	**100.0**

93.9% of Chinese tourists travel into the northern region of Thailand from the mainland by airplane. The least chosen are the company tour bus (2%), private car (2%), and rental van (2%).

Table 12 Vehicles used for traveling to various tourist destinations by Chinese respondents

Vehicles used for traveling to various destinations	Total	Percentage
1. Car	2	2.0
2. Public bus	11	11.0
3. Tour bus	13	13.0
4. Car rental	31	31.0
5. Tuk Tuk	48	48.0
6. Taxi	19	19.0
7. Other	6	6.0

When traveling to get to various destinations within the northern region of Thailand, 48% acquire the traveling services of the Tuk Tuk which is a motorized rickshaw. 31% would rent a car to travel around. 19% choose a taxi to get their desired points. 13% would take a tour bus and 11% get on the public bus for traveling about. While 6% have identified other forms of transportation only 2% would take the car in riding to their destinations.

Practical management guidelines for accommodating the behaviors of Chinese tourists

A delicate balance that pushes visitors to take part in a cultural learning and understanding experience while also pulling them to enhance the charm that makes the cultural events alluring for other foreign travelers would be grand in making the cultural tourism economy and environment highly sustainable (Pesonen et al., 2011). For the practical guidelines in accommodating with the behaviors of Chinese tourists the cultural tourism management will have to work with the facts to conjure up the ways to get the tourists feel a great deal of satisfaction along their traveling journey. With 56% of the Chinese travelers coming to travel for the purpose of resting the body and the mind, 48% coming to admire the beautiful nature and landscape, and 44% taking the opportunity to be with their friends and family the cultural tourism management group will have to design the facilities within the infrastructures to have tourists be exposed to the serenity of the exquisite urban/rural environment that also welcomes them to partake events that involves their family and friends. With regards to the tourists sites visited mainly involving the natural scenery (51%), health and culture (33%), and ecotourism (31%) some financial arrangements will have to be set aside for making re-investments to uphold the systems to keep the services robust throughout a longer period of time. A good number confirming that Chinese travelers are more likely to travel 2-3 times a year (46.9%) during the non-festive days (72.7%), with no particular season chosen as the favorite time of year for traveling (89%), and staying for about 5-6 days (46.5%): this information provides the initiative for the cultural tourism management to be in contact with the hospitality network for having their hotels room available for booking because most of the tourists from the mainland prefer to stay at a hotel (72%). Security and safety measures have to be aligned as a majority of Chinese travelers are coming by airplane (93.9%) to enter the northern region of Thailand. Cultural tourism management will also need to make use of the social media and other forms of digital communication to keep the Chinese tourists updated about certain events and interesting places to visit because these travelers who mostly prefer to travel with family (34%) and with friends (33%) often get together with people who they are familiar with (40.4%) for making traveling plans; information center (30%) will also need to be modernized to give the best services for the visitors. Since the Chinese travelers mostly plan and organize their own tour (43.4%) and make traveling plans with their friends (31%) management will have to provide the accessible resources that speak in their native language to point out the information about the cultural site and to be aware of what behavior is acceptable and what is not. Cultural tourism management will have to ask for some collaborative assistance with the law enforcement agencies to provide the protection and direction needed for Chinese tourists who prefer to ride in a tuk-tuk (48%), rent a car (31%), or get a taxi (19%) just to get to their various destinations.

Discussion and conclusion

The examination of the large number of tourists' behavior arriving from mainland China with a specific idea provides plenty of information for the cultural tourism management to develop a strategy for in accommodation in the northern region of Thailand. Working with the facts on the traveling purpose, their length of stay, chosen place to stay, how traveling plans are made, and means of transportation all give a better perspective on defining ways in arranging the conditions for traveling and transportation: while the safety and security issue is always the focus the others side is on providing the access to be more positively engaged with the natural beauty of the environment and landscape. For cultural tourism to be at its best the thinking has to be along the value chain to help management discuss about the details and sources that are occurring with fellow members of the tourism network to agree on the services or products that need to be improved upon (Ogaboh Agba, 2010). In conclusion, cultural tourism is already complex and dynamic with the ideas and behaviors meshing, colliding, or sometimes in conflict with one another. The addition of the details from the examination of Chinese tourists' behavior brings the equation to a whole new practice for management in cultural tourism. Unlike working in an office at an organization, cultural tourism needs to have all the key players and resources to be developed in alignment (Muskat, Muskat and Blackman, 2013). Cultural events and activities will need to be organized as a framework for learning how to empower the staff to anticipate for problems or get organizations tightly involved to find the hidden values that can bolster a terrific cultural experience for the Chinese tourists to keep on coming back to visit the northern region of Thailand.

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FACTORS INFLUENCE ONLINE SHOPPING AND OFFLINE SHOPPING: CASE STUDIES OF RETAIL FOOTWEAR INDUSTRY IN BANGKOK

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Abstract

Recent research has shown explore the factors which influence the online shopping and offline shopping behavior, Also compare online and offline shopping and understands what factors influence online and offline shopping decision process. The study expects to fulfill the blank space and could be employed as the reference for current companies to associate them and improving and develop customer satisfaction in Footwear retail business in online and offline channel. The researched survey was conducted with a sample size of 400 respondents, of different age, gender, education, occupation and income, also conducted in 5 popular shopping locations in Bangkok, Thailand, and focused on impact of three major factors (Marketing Mix, Brand and Consumer Behavior) on Online and Offline shopping, The research found that both online and offline shopping plays an essential role in the modern Thai society. People whose income level is high and are very busy with their personal and professional lives prefer to purchase goods and services online. Other individuals whose income level are lower and have no relevant knowledge about the Internet prefer to buy goods and services in traditional ways via physical shops. But nowadays due to fast change of technology as well as the ongoing risks associated with the COVID-19 pandemic, people try to adapt themselves according to the changing environment. The young generation wants to purchase every item online because they can use technology more comfortably than other age groups. The regression analysis found show that the Brand and Marketing Mix factors (Product, Place, Price, Promotion, Physical Evidence, People, and Processes) influences choice decisions towards the online and offline shopping (channel distribution) of retail footwear in Bangkok in line with Charles McIntyre, T.C. Melewar and Charles Dennis (2016) research on the matter, while Consumer Behavior variable is less relevant in the context of Online Shopping and Offline Shopping. The strongest significance for the model was found between Marketing Mix (7Ps) and Online and Offline Shopping behavior which can attest the relevance of the 7Ps model as well as the importance of 7Ps components on the purchase intend for the footwear industry in

Bangkok, Also a strong model significance was also found between the Brand image and Online and Offline Shopping behavior as found by Mohan, Brian P. Brown, and Caley Cantrell (2017). This shows that brand strength plays an important role in customer trust, regardless of the physical shop or online store when customer decides to purchase shoes articles.

Keyword: Consumer behavior in online and offline, Marketing mix (7PS) in online and offline and Band orientation

Introduction and background

The researched studies the comparative factors which influence the Online and Offline shopping focuses on the footwear retail business in Bangkok. The first section starts with the background and significance of this research. This research investigates the comparative factors influencing.

The increase technology provides good opportunity to seller to reach customer in much faster and easier, Online shopping is emerging very fast in recent year. Now a day the internet holds the attention of the retail market. Many people shop online on the other hand the purchasing of product from traditional market is continuing since years. Many customers go for purchasing offline so as to examine the product and hold the possession of the product just after the payment for the product. In this contemporary world customer's loyalty depends upon the consistent ability to deliver quality, value and satisfaction. Some go for offline shopping, some for online and many go for both kind of shopping. The focus of the study is on the consumer's choice to shop on internet and at the traditional stores at the information gaining period. However online shopping is easier for the people and less price than the offline shopping. While making any purchase decision consumer should know the medium to purchase whether online shopping or the offline shopping. Consumer should decide the channel for them which can best suit to their need and wants and which can satisfy them. In this competitive world how, consumer can decide the particular medium for their purchase of goods is very important to understand in a managerial point of view. (Laing and Lai, 2000). The customer of online shopping should have internet and valid method of payment in order to purchase the products from the internet. Amazon, Myntra, flipkart are some of the examples of the successful online shopping sites that use less price of the items and large stocks to attract the consumer. In general, the population from high level of income and high level of learning are more favorable to do online shopping. The populations who are more knowledgeable and more explored to the internet are more into online shopping. The increase in technology increases the online shopping by the consumer. The increase in technology creates a favorable attitude towards the consumer for online shopping. (Palmer& Kimberly,2007).

Retailers in footwear industry needed the strategy to develop online and offline channel. With the well-created strategy, they could also attain their goals regardless of the channel customers used to access information about product including product review, visibility and availability. Therefore, the companies who aimed to meet the profitability and success as well as business development should take strategy development as their priority. This could change the way the shopping scene viewed by the customer experience (Conny T. &Niklas V. 2015).

Online and Offline channel in Footwear retailer can be found in different ways. Nevertheless, the core principle was the development of the retailer potential to reach and interact with their customers via established sale channels successively (Frazer & Stiehler, 2014; Rigby, 2011). Channels utilized by retailers could be the mobile app, social media sites, their websites, physical store, television, call centers and so on (Rigby, 2011; Piotrowicz& Cuthbertson, 2014).

The experience occurs when a company intentionally uses services as stages and products as props to engage with customers in a way that creates memorable experiences. Therefore, claiming that an experience is fully staged by the company. (Pine and Gilmore, 1998) had a more general view on customer experience. He held that experiences "occur as a result of encountering, undergoing or living through things. Experiences provide sensory, emotional, cognitive, behavioral, and relational values that replace functional values" (Bernd Schmitt, 1999) Therefore stating that experience occurs in every encounter and living moment of a person. define customer experience as something that is advocated by the customer instead of the company. "Customer experience is the internal and subjective response customers have to any direct or indirect contact with a company. Direct contact generally occurs in the course of purchase, use, and service and is usually initiated by the customer." (Meyer & Schwager, 2007).

Bangkok, particularly Thailand District as we all know, is one of the most educated states in the country. It is important to look into the situation from an academic research point of view so as to question the reasons behind the condition of the shopping in the state Bangkok, particularly Thailand District. The researched may fill the gap between the choice of online shopping and offline shopping. This study reflects the problems and factors of online and offline shopping. There were certain problems, why people do not do online shopping and go for market to shop things? What are the major reasons behind the online and offline shopping? This study helps the consumer to get an idea about the online shopping. The study makes the consumer clear about which option should be taken by the consumer to get more benefit out of its.

Therefore, this study aims to discuss and explore the comparative factors which influencing Online and Offline shopping of footwear industry in Bangkok. This study is expected to be used as the guideline for the companies within the footwear industry to understand and interpret the needs of customers through the online and offline shopping.

Research objective

In recent years, studies distinguished another non store retail format Internet. Recent studies investigated why consumers shop through stores, catalogs, or the Internet (Black et al.2002). The study contributes to the current marketing literature by comparing the offline and online channel side-by-side. This study also contributes hypothetically and practically to a better understanding.

-To examine the factors affecting online shopping

-To find the factors affecting offline shopping

Research questions

1. What are the factors that influence online shopping?
2. What are the factors that influence offline shopping?

The thesis could benefit retailers for the use of measuring and compare online and offline shopping. The online and offline shopping is lack in previous studies meanwhile factors affecting to online and offline shopping in is still unidentified (Piotrowicz and Cuthberson, 2014; Verhoef et., 2015). Thus, this study expects to fulfill the blank space and could be employed as the reference for current companies to associate them and improving and develop customer satisfaction in Footwear retail business in online and offline, this research can also be used as the reference for the future studies.

Literature review

Marketing Mix (7Ps) Strategy in online shopping

In the area of e-commerce, the development of the marketing concept can be considered in two important aspects. The first aspect – is the development of the service component. E-commerce, as it has been mentioned earlier - is the sphere of commercial activity to provide online trading services. It is carried out in the special environment, which, on one side, has the features of the service environment, and on the other side - rejects these signs because it is virtual. Not material, technological and programmatic nature of the sales process, distanced communication (often more than hundreds or thousands of kilometers) between a seller and a buyer, the inability to get to know the features of the goods in a real life - these are just some of the features inherent in the trading service in the Internet. The second aspect of the development of the marketing concept in ecommerce is due to the special role of the innovation component. (E.V. POGORELOVA ET AL., 2016)

Band orientation in online shopping

Torsten Lihra and Raoul Graf (2007) studied about the Online and Offline shopping consumer choice in regard with the buying process and selection of household furniture. According to their study, they suggested that the retailers should continue to develop marketing strategies as consumers relied on many channels to meet their needs for products and services. Charles McIntyre, T.C. Melewar and Charles Dennis (2016) stated in their book that the Online and Offline channel experience, retail customer experience including service process should be incorporated in order to create engagement and interaction between customer and brand as well as customer experience. Mosquera, Pascual and Ayensa (2017) studied about the customer experience in Online and Offline shopping. Their study aimed to overview and increase more understanding towards the trend of Online and Offline shopping. The method they used was the collection of over 100 papers and business reports from Scopus, Google Scholar, and Web of Science. Mayo or Mohan, Brian P. Brown, and Caley Cantrell (2017) studied about the influence of brand image to the customers' experience. Their study pointed out those brands mattered in consumers' lives meanwhile some brands were perceived as more valuable compared to others brands. Consumers were more interested in brands of which enhanced their autonomy, competence including potential to relate to others from their view.

Consumer behavior in online shopping

In order to analyze with precision, the availability of customers to behave in offline shopping the same way they do in online shopping, it is useful to understand the processes behind online consumer behavior. Online consumer behavior is described as the process of purchasing products or services through the internet (Liang and Lai, 2000). The typical process begins when potential consumers recognize a need for some product or service. The next step is searching for information in the web related with their specific need. After deciding, the transaction is performed and post-sales services are provided (Li & Zhang, 2002).

Online channel

The online channel, the retail can offer the customer worldwide product section compare with the physical channel. Additionally, the online channel can reduce cost of customer searching by provide the information of product and recommendation and reviews also can compare price as well as quick and easy to check by online the customer have to rethink of online channel offer the option to use online channel such as cash payment and traditional face to face interaction are present (Piotrowicz & Cubertson, 2014; Zhang et al., 2010), but online channel provide the online payment that should be to selected.

Marketing Mix (7Ps) Strategy in offline shopping

Marketing Mix or 7Ps is defined as the strategy as a direction and scope for an organization in meeting long term objectives by configuring its resources in the present dynamic business environment (McCarthy, 2011). Nagle and Holden (2012) stated that marketing mix was important for the strategic management and also became a framework of controllable and tactical tools which developed the marketing and was often utilized by the marketers in order to so as target the needs of their target customers.

Thus, the marketing mix strategies should contain the responses of the organization to ensure that the target customers were positively influencing their product needs. In To meet the customer needs, the marketers must have a close focus on the customers' behavior so that they could develop the marketing strategies to improve their performance. Marketing Mix (7Ps) Strategy, there are four elements which the marketers are about to develop following to the consumer behaviors which are price, place, product and promotion.

Band orientation in offline shopping

Band orientation is considered as a unique cluster of associations within the minds of the customers towards the brand. It represents the way they believe brand stands for. Moreover, the brand image can be defined as the set of beliefs about the brand. In other words, brand image is included in a part of consumers' perception about the product offered by the brand in the market under the manner where a specific brand is positioned itself (Petty, 2016). Brand image is well said to lead to the emotional value not only mental image. This means brand image can create the perceived value of customers potentially and refers to nothing but the company's or brand's character.

Consumer Behavior in offline shopping

The study of consumer behavior was crucial for the companies as consumer behavior influenced the marketing strategy and helped explore the target group and increased companies' potential to meet customer satisfaction, Also consumer's behavior as the activities which people had undertaken when they recruited the products and services, including consuming and obtaining (Zeithamal and Bitner, 2000). The marketers should examine the probability of the consumers to purchase for especial product and at a particular time so that the marketers could know that what time and which product consumers would buy and then these consumers can be satisfied their needs and wants precisely. (Kumar, 2006).

Offline channel

The physical stores the retailer allows to achieve to the customer provide goods and services effect since the customer does not have to wait to receive the goods and services (Agatz et al, 2008; Grewal et al, 2004). Operation physical stores allows the customer to convenient as well and provides them in the decision-making process with any potential (Rigby, 2011; Grewal et al; 2004). The store retailers have opportunity to enhance the quality of service by personality. Also, the presence of product and service that allow customer o try, touch and feel before making a purchase (Gorsch, 2000; Herhausen et al, 2015, p.3; Rigby; Webb, 2002). The physical store is traditional shopping still plays key part in the market, but the "brick and mortar" has changed to the emergence of the Omni-channel customer experience. The influence demand today consumer, brands need to rethink and coordinate in store and online experience as well.

Research hypothesis

The independent and dependent variables, three hypothesis were developed.

H1: There is a significant relationship between Brand images with online shopping.

H2: There is a significant relationship between Marketing Mix (7PS) with online shopping.

H3: There is a significant relationship between customer behaviors with online shopping.

H4: There is a significant relationship between Brand images with offline shopping.

H5: There is a significant relationship between Marketing Mix (7PS) with offline shopping.

H6: There is a significant relationship between customer behavior and with offline shopping.

Conceptual framework

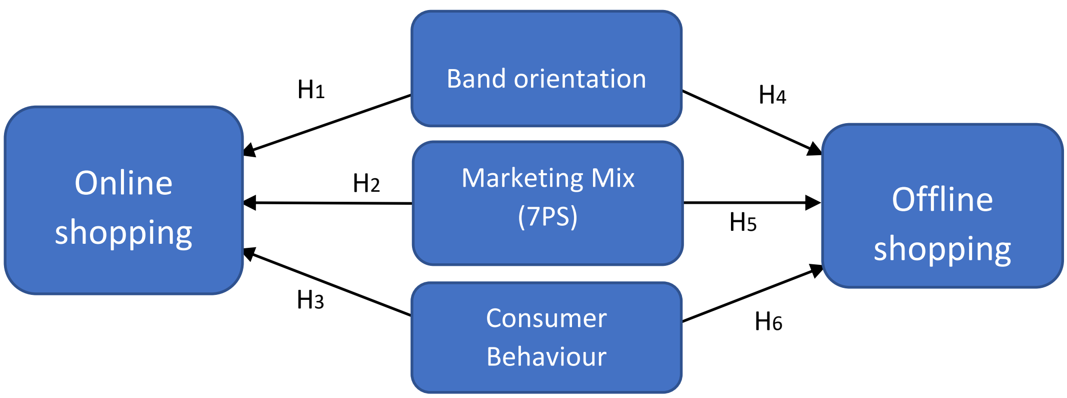

Figure 1 The conceptual framework comparative factors effecting in Online and Offline shopping:

Source of Framework: (IJRMBS 2017), Simon, A. H. (1977)

Scope of work

The research study will focus on study and understanding of comparative of online and offline shopping and more to focus between online and offline customer behavior, marketing mix (7ps) and brand image attribute can be developing strategy in term of customer relationship management strategy in Footwear retail business. This research will also measure and explore all possible factors influencing customer behavior, marketing mix and Brand image between online and offline especially footwear retail business in Bangkok

Methodology

This thesis was instrument of questionnaire for collected the data and study the comparative factors which influence customer behavior, marketing mix and Brand image between online and offline especially footwear retail business in Bangkok: case study separate to 3 part as following; Part 1: Demographics The questionnaire collected personality's data such as gender, age, education, occupations and revenue. There were 5 questions for difference type and also questionnaire structure would be close-ended question.

Part 2: Likert Scale Research by Shim et al. (2001) found that consumers that have a positive attitude towards online and offline shopping are more likely to purchase online and offline, and a higher number of experiences with buying results in higher purchase intentions. They are 8 questions for brand image, 8 questions for experience of in your opinion which factors do you consider for online shopping, 21 questions for experience of in your opinion which factors do you consider for online shopping.

Part 3: Consumer behavior they are 14 questions of consumer behavior, As What kind of shopping channel do you like to buy shoe?, How often do you buy shoes?, How much time do

Part 4: Online and Offline shopping they are 9 questions of Online and Offline shopping

Findings and discussion

The research found a significant relationship between Brand images, Marketing Mix (7Ps) with Online and Offline Shopping. However, the Consumer behavior was found to have no significance on the Online Shopping though a strong significance was found between Customer Behavior and Offline Shopping. Therefore, the H1, H2, H3 H4, and H6 were found to be significant for the present research context. In consequence, the H5 was invalidated as low significance was found in the analysis for the data collected in this study.

Table 1

Demographics					
Gender	Men 39.5%	Female 60.5%			
Age	21-30 44.3%	31-40 22%	41-50 22.5%	More than 50 11.3%	
Education	Below or equal High school 24%	Bachelor Degree 43%	Master Degree 26%	More than Master Degree 6.8%	
Occupation	Student 10.8%	Employees 30%	Own Business 22.5%	Retired 11.2%	Other 22.5%
Income	Less than or equal 15,000 31.8%	15,001-20,000 18.5%	20,001-30,000 34.5%	30,001-40,000 7%	40,001-50,000 8.3%

The research demographics consists of a larger population of female (60.5%) than men (29.5%). This can be interpreted that female are generally more inclined to visit the shopping areas where the research was conducted in contrast with men who represent 1/3rd of the total sample size. On the age demographics one group of age stand out, respectively respondents with ages between 21-30 (44.3%) while the rest of population was relatively equally spread in percentage, respectively the 31-40 (22.0%) and 41-50 (22.5%). The remaining respondents were all over 50 years old and represent approximately 1/10th (11.3%) of the total population in this study. This shows that younger individuals are more likely to visit a footwear shop located in a shopping area while the percentage of frequency declines as the ages increases.

The education profile of the respondents had the highest percentages for the Bachelor Degree holders (43%) and Master Degree holders (26%), while the group with education bellow High school represents relatively 1/4th (24.3%) of the total sample size. The smallest education group in this study is represented by the individuals with studies higher than Master Degree. These findings can be interpreted as the populations with higher education most likely have a higher purchasing power, being most likely employed. This assumption can be strengthened by the fact that over 50% of the total sample size is either employed (30.0%) or own a business (22.5%). The rest of the population is spread between retired (11.3%), students (10.8) and respondents that chose other occupations (22.5%) not listed in the question choices.

The income demographics of the research had the largest percentage group (34.5%) with a monthly income 20,001-30,000 THB followed by the second largest income group (31.8%) of income less than or equal with 15,000 THB per month. The other income group percentage are spread between 15,001-20,000 THB per month (18.5%), 40,001-50,000 THB (8.3%) and 30,001-40,000 THB (7.0%).

The following table presents the mean computation for computed variables (independent and dependent) used in this research: Marketing Mix (7 Ps), Brand Orientation, Online and Offline shopping, and Consumer Behavior as following;

Table 2

	N	Minimum	Maximum	Mean	Std. Deviation
Marketing Mix 7Ps	400	3.05	4.10	3.8137	.24262
Brand Orientation	400	3.40	4.40	4.0065	.24933
Online Shopping	400	3.41	4.35	4.0662	.26640
Offline Shopping	400	2.29	3.86	3.0189	.35138
Consumer Behavior	400	3.56	4.33	4.0147	.26977
Valid N (list wise)	400				

On the Marketing Mix (7Ps) variable, the calculated mean of 3.81 shows that the vast majority of the respondents in this study agree that Marketing Mix plays an important role in the online and offline shopping behavior for footwear business in Bangkok, Thailand.

Table 3

	Product	Price	Promotion	Process	Physical	Place	People
Mean	4.3550	4.5567	3.8282	3.9300	3.8175	4.3358	3.7425

Table shows the mean values calculated for each Marketing Mix 7P item. The product, price, promotion and place has higher means, respectively 4.3, 4.5, and 4.3 respectively. This indicates that the respondents overall agree and highly agree with the questionnaire statements for the product, price, promotion and place. The 7P items promotion, process, physical and people have calculated mean of 3.8, 3.9, 3.8, and 3.7 re respectively. This indicates that the respondents overall are neutral with the questionnaire statements for the respective 7P items.

Table 4

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.941	.376		5.167	.000
Marketing Mix 7Ps	-.179	.096	-.124	-1.856	.065
Brand Orientation	.695	.093	.493	7.471	.000
Consumer Behavior	-.255	.062	-.196	-4.145	.000

a. Dependent Variable: Offline Shopping

For offline shopping, the Brand Orientation has the highest significance for Thai consumers with a beta value of 0.493 and sig. value of 0.000. This shows that Thai consumers value and trust more branded products when it comes to offline shopping due to established reputation as well as higher consumer satisfaction relative to the purchased good or service. The result shows the importance of maintain a positive brand reputation as this factor alone is the main catalyst for Thai offline consumers. The second factor of importance for the offline shopping is consumer behavior with a calculated beta value of 0.196 and a sig. value of 0.000 showing high significance. Consumer behavior is significant because it facilitates marketers in determining what factors affect customers' purchasing choices. They will fill in the void in the market and recognize the goods that are required and the items that are outdated through learning how customers choose products. The third factor of importance for offline shopping identified in the regression analysis is the Marketing Mix (7Ps), with a beta value calculated at 0.124 and a sig. value of 0.000 showing high significance for the model.

To identify which Marketing Mix component has the highest impact on offline shopping, regression analysis was performed for each Marketing Mix component (Table 4.22) as following:

Table 5

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.784	.228		3.437	.000
Product	-.268	.028	-.274	-9.527	.000
Price	1.122	.079	1.502	14.221	.000
Promotion	-.253	.030	-.274	-8.416	.000
Process	.079	.015	.146	5.443	.000
Physical	.816	.038	1.789	21.338	.000
Place	-1.373	.098	-2.374	-13.990	.000
People	.477	.060	.597	7.907	.000

a. Dependent Variable: Offline Shopping

The highest beta calculated value is for the place, respectively 2.374 and a sig. value of 0.000 showing high significance for the model. This shows that the place plays the most important role for the offline consumers when deciding to purchase a product or service. This finding is important for shop owners in order to understand the way the shop and products are presented to the customer can directly impact their sales. The second Marketing Mix component of importance for offline consumers is the physical evidence with a calculated beta value of 1.789 and a sig. value of 0.000 showing high significance for the model. Offline business owners should pay attention to the visible elements which provided the atmosphere of friendliness within the business. Various factors such as interior features: wallpaper, ceilings, space are important for offline business. The air temperature, and personal artifacts also physically influenced the customer experience that can enable potential sales. The third Marketing Mix component of importance for offline businesses is the price with a calculated beta value of 1.502 and a sig. value of 0.000 showing high significance for the model. It is important for an offline business to apply different pricing strategies up on their target groups, goals and objectives including product stage in order to maximize their sales. The fourth Marketing Mix component of importance for offline businesses is the people with a calculated beta value of 0.597 and a sig. value of 0.000 showing significance for the model. Some actions such as greeting customer with smiling face, the presence of friendliness and politeness under warm environment, and understanding customers' problems, and giving the interaction with them were considered positive by customers can impact customer intend and eventually can lead to sales. The fifth important Marketing Mix components for offline businesses are the promotion and product, both factors having a calculated beta value of 0.274 and a sig. value of 0.000 showing significance for the model. The fact that promotion and product are not the top significant factors in this analysis can be explained by the fact that Thai consumers aware of the product and promotion when visiting an offline business from other various channels e.g., online advertising. Another reason could be that offline shopping usually is done by randomly browsing shops in a mall for instance without a clear intention to purchase a good of service. Therefore, factors such as place, physical evidence and price have a higher impact on consumer purchase intention. The least significant Marketing Mix factor resulted from the regression analysis in this study is process, with a beta calculated value of 0.146 and sig. value of 0.000 showing significance for the model. In the context of offline shopping, the deliveries of goods and services have the lowest impact on Thai consumers. However, the process has a higher impact on customers in the context of online shopping which will be discussed in a moment.

Table 6

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.949	.223		4.247	.000
Marketing Mix 7Ps	.374	.057	.340	6.510	.000
Brand Orientation	.453	.055	.424	8.182	.000
Consumer Behavior	.350	.037	.331	6.830	.000

a. Dependent Variable: Online Shopping

Overall, for the online shopping, the most important factor identified in the regression analysis is brand orientation with a beta calculated value of 0.424 and a sig. value of 0.000 showing strong significance for the model. This shows that Thai consumers have a strong commitment to branded products and services when it comes to purchasing goods online as well as offline. It is important for the online business owners to know that building brand reputation is crucial for success of their business. Positive reviews, customer-oriented return policies and warranties can be a good strategy to enhance brand reputation online. The second most important factor is Marketing Mix (7Ps) with an overall beta score of 0.340 and a sig. value of 0.000 showing high significance. To understand better which Marketing Mix component affects the most customer purchasing intention online, regression analysis was conducted for each P.

Table 7

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.427	.073		5.870	.000
Product	.292	.019	351	19.178	.000
Price	.941	.025	1.661	37.424	.000
Promotion	.259	.010	.370	27.083	.000
Process	-.164	.005	.-.397	-35.315	.000
Physical	.296	.012	.855	24.254	.000
Place	-.678	.031	-1.545	-21.656	.000
People	.219	.019	.362	11.384	.000

a. Dependent Variable: Online Shopping

Price was found to be the most important Marketing Mix component, with a beta calculated value of 1.661 and a sig. value of 0.000 showing high significance. With so many online businesses competing for the same products and services, having a price strategy that stimulate consumers can make a big difference. Online companies should constantly survey their competitors and adjust the price accordingly in order to capitalize on the market and generate new sales leads. The second most important factor in the Marketing Mix is place, with a calculated beta of 1.545, and a sig. value of 0.000 showing high significance. In the context of online shopping, the place to the virtual environment where the consumer purchases a good. Thai online shoppers demand fast and responsive websites, modern and well secured before conducting a purchase. Mobile devices and easy access to the Internet services transformed the way consumer purchase goods, and this is extremely relevant for Thai consumers too – Thailand being one of the largest Internet consumers in the world. The third most relevant Marketing Mix component is physical, with a beta calculated value of 0.855 and a sig. value of 0.000 showing high significance. For online shoppers, trust is an important factor in determining a purchase. Knowing that an online business has a physical address can help build trust that the company can be reached in case is needed. The fourth important Marketing Mix factor is process, with a beta calculated value of 0.855, and a sig. value of 0.000 showing significance. In the context of online shopping, the process refers to the customer experience from the moment it interacts with a business in the virtual space to the moment the purchased good is delivered. Online business owners should pay attention to how fast they can deliver a good, as a customer that has a positive delivery experience is more likely to conduct a future purchase from the same company. The fifth important Marketing Mix component is promotion, with a calculated beta value of 0.397 and sig. value of 0.000. Promotion is an important factor in online shopping as it provides the much-needed online visibility whenever organic traffic is not a solution. Promotion is very important especially for new online businesses due to low brand reputation and difficulty in creating an online customer base. Online business owners should think to out-of-the-box creative ways of advertising online in order stand-out among the massive amount of online advertising available. The sixth important factor identified by regression analysis is people, with a calculated beta value of 0.353 and a sig. value of 0.000. Even if consumers today interact with virtual interfaces rather than people, humans are still an important component in the Marketing Mix when it comes to online shopping. Online businesses should make sure they provide quick online customer support whenever possible or try to manage customer complains in the most effective ways to avoid negative reviews and improve customer satisfaction and brand trust. The seventh Marketing Mix factor is product, with a calculated beta of 0.351, and sig. value of 0.000. The results shows that Thai customer already have a purchase intend in mind when they decide to visit an online shopping platform to purchase a good or service and their purchase do not happen randomly in most cases. This concludes the regression analysis for Marketing Mix (7Ps).

The least influential factor in online shopping is consumer behavior, with a calculated beta of 0.196 and sig. of 0.000 showing that Thai consumers are aware of the processes and risks associated with online shopping. The online consumer behavior is a highly dynamic process, in constant change accordingly to the technology and market trends.

In the following section, the multiple regression for independent variables Online Shopping and Offline Shopping, and dependent variables Brand Orientation, Marketing Mix (7Ps), and Consumer Behavior was calculated using the following multiple regression equation:

Ŷ=b_0+b_1 X_1+b_2 X_2+...+b_p X_p

Where [equation image indication] is the dependent variable's projected or expected value, X1 through Xp are p unique independent or predictor variables, b0 is the value of Y when all of the independent variables (X1 through Xp) are zero, and b1 through bp are the estimated regression coefficients.

$Y = a + b1X + b2X + b3X$

Offline Regression Equation

$Y = 0.784 + 0.493X - 0.1962X - 0.124X$

Online Regression Equation

$Y = 0.427 + 0.424X + 0.331X + 0.34X$

The following table presents to summaries the hypotheses results.

Table 8 The summaries the hypotheses results

Hypothesis	Beta Coefficient	P-Value Significant (P<0.1)	Decision	Justification
H1: There is a significant relationship between Brand images with online shopping.	0.424	0.000	Accepted	The P-Value is significant and Band image has 42.4% positive impact on Online shopping.
H2: There is a significant relationship between Marketing Mix (7PS) with online shopping.	0.34	0.065	Accepted	The P-Value less than 0.1 is significant and Marketing Mix (7PS) has 34% positive impact on Online shopping.
H3: There is a significant relationship between customer behaviors with online shopping.	0.331	0.000	Accepted	The P-Value is significant and customer behaviors have 33.1% positive impact on Online shopping.
H4: There is a significant relationship between Brand images with offline shopping.	0.493	0.000	Accepted	The P-Value is significant and Band image has 49.3% positive impact on Offline shopping.
H5: There is a significant relationship between Marketing Mix (7PS) with offline shopping.	-0.124	0.000	Accepted	The P-Value is significant and Marketing Mix (7PS) has 12.4% negative impact on Offline shopping.
H6: There is a significant relationship between customer behavior and with offline shopping.	-0.196	0.000	Accepted	The P-Value is significant and customer behaviors have 33.1% positive impact on Offline shopping.

The research found a significant relationship between Brand images, Marketing Mix (7Ps) with Online and Offline Shopping. However, the Consumer behavior was found to have no significance on the Online Shopping though a strong significance was found between Customer Behavior and Offline Shopping. Therefore, the H1, H2, H3 H4, and H6 were found to be significant for the present research context. In consequence, the H5 was invalidated as low significance was found in the analysis for the data collected in this study.

Compare the results between online and offline channels

The results shows that the online and offline shopping are still both preferred ways for purchasing goods in Thailand though a low significance between Marketing Mix (7Ps) and offline shopping was found. As a result the H5 was found to not be significant. In the context of the offline shopping, the study found that customers visit a shop because they are unsure if a product will fulfill their requirements. When customers try the goods, the offline retailer's job is to retain them in the shop by leveraging their decision-making behaviors, particularly for individuals who plan to explore and switch. Otherwise, if customers already have complete knowledge about the goods, or if the probability of their purchasing the product is exceptionally high from the start, they may buy straight online. When competing with online retailers, this finding may be more critical for department shops or shopping malls since this approach is more appropriate for products with high-value uncertainty (McIntyre et al. 2016). Through the new transaction paradigm, the emergence of online commerce has provided customers with more diverse options. This has enabled diverse customers to adopt various buying tactics, which impacts the retail industry's competitive climate. Customer heterogeneity is represented in this study by the various purchasing prices and the probability of the product meeting consumer requirements. In addition to price, these two variables will affect customer behavior to varying degrees, and various consumer behaviors will alter the competitive situation and store pricing and profit. The study suggests that business design and marketing tactics should vary in the two buying contexts, depending on whether the factor variations were the consequence of most online customers' and offline consumers' actions.

The most influential factors that impact online and offline shopping behavior in Bangkok is Brand Orientation has the highest significance for consumers the result shows the importance. It causes the priorities can be developed with descriptive related brand orientation. This can be strategically used to identify investment preferences, new areas to be addressed, opportunities, strengths and weaknesses, and competitive advantage to focus.

Second influential factors that impact offline shopping is Consumer behavior, also Third influential factors that impact for online shopping. Businesses can determine the kind of culture and environment their consumers expose themselves to, which affects their purchasing decisions. All these psychological aspects help marketers create marketing strategies and campaigns that can leave a lasting impression on the minds of consumers.

The third is Marketing strategy has to be used if businesses want to succeed in reaching to their customers faster than their competitors can get. The 7Ps of marketing mix help them do just that. The highest significant is Place for offline shopping and the second for online shopping.

It is important that your product is made available to your customers conveniently and at all times. Place and the distribution network are very important to keep serving your customers.

The second significant is Physical for offline shopping and the third for online shopping. Attaching tangible clues to services in order to communicate and satisfy customers. Physical evidence is important because of the intangible nature of services. The customer has to get some tangible clues in order for him to buy your services. Cleanliness, dress of staff, wall color, website experience, packaging, brochure designs are some of the many factors in determining the customers decision towards buying. The third significant is Price for offline shopping and The highest significant for online shopping. Companies base their prices keeping in mind customer's perception of the brand and also competitor's pricing strategy. The fourth is People for offline shopping, also The sixth for online shopping. Services are generally characterized by frequent interaction of the creator and the consumer. It's the front-end employees like showroom sales men or receptionists who play the customer facing role even before the service experience can begin for your customer. Employee behavior can actually make or break a brand name. Therefore employing, training and retaining the right set of people becomes imperative for the success of business. The fifth is Promotion at online and offline shopping. Promotion very important that the target customers know about your product. Promotion either for new customers or the existing customers is a very important tool for campaign managers. The sixth is Product influential factors that impact offline shopping, also The seventh online shopping. Product it helps Business for product development keeping in mind the customer's needs. As product managers it is important to always keep ears open to customer needs and eyes open to innovation. The least significant is Process for offline shopping, also The fourth for online shopping. Businesses have to keep in mind that the process of service delivery is designed not for provider's convenience but keeping the customer in mind.

Implications

The most influential factors that impact online and offline shopping behavior in Bangkok is Brand Orientation has the highest significance for consumers the result shows the importance. It causes the priorities can be developed with descriptive related brand orientation. This can be strategically used to identify investment preferences, new areas to be addressed, opportunities, strengths and weaknesses, and competitive advantage to focus.

Second influential factors that impact offline shopping is Consumer behavior, also Third for online shopping. Businesses can also determine the kind of culture and environment their consumers expose themselves to, which affects their purchasing decisions. All these psychological aspects help marketers create marketing strategies and campaigns that can leave a lasting impression on the minds of consumers, Understanding consumer decision-making., Assessing a product's supply and demand, Determining the sales forecast by studying consumer behavior and impact of advertisements on consumer behavior.

The third is Marketing strategy has to be used if businesses want to succeed in reaching to their customers faster than their competitors can get. And the 7Ps of marketing mix help them do just that.

The highest significant is Place for offline shopping and the second for online shopping.

It is important that your product is made available to your customers conveniently and at all times. Place and the distribution network are very important to keep serving your customers.

The second significant is Physical for offline shopping and the third for online shopping.

Attaching tangible clues to services in order to communicate and satisfy customers.

Physical evidence is important because of the intangible nature of services. The customer has to get some tangible clues in order for him to buy your services. Cleanliness, dress of staff, wall color, website experience, packaging, brochure designs are some of the many factors in determining the customers decision towards buying that service.

The third significant is Price for offline shopping and The highest significant for online shopping. Companies base their prices keeping in mind customer's perception of the brand and also competitor's pricing strategy.

The fourth is People for offline shopping, also The sixth for online shopping. Services are generally characterized by frequent interaction of the creator and the consumer. It's the front-end employees like showroom sales men or receptionists who play the customer facing role even before the service experience can begin for your customer. Employee behavior can actually make or break a brand name. Therefore employing, training and retaining the right set of people becomes imperative for the success of a service business.

The fifth is Promotion at online and offline shopping. Promotion either for new customers or the existing customers is a very important tool for campaign managers.

The sixth is Product influential factors that impact offline shopping, also the seventh online shopping. Product it helps Business for product development keeping in mind the customer's needs. As product managers it is important to always keep ears open to customer needs and eyes open to innovation.

The least significant is Process for offline shopping, also the fourth for online shopping.

Businesses have to keep in mind that the process of service delivery is designed not for provider's convenience but keeping the customer in mind.

Future research recommendations

Future research might focus specifically on a footwear brand that sales both online and offline in order to get deeper insights into Marketing Mix, Brand image and Thai Customer Behavior. On the online shopping behavior, a future research might choose a specific shopping platform or compare multiple shopping websites to understand the customer behavior in the context of the footwear industry in Bangkok. Future research on how the social media influencer and Electronic Word of Mouth (eWOM) impacts the brand perception and customer behavior when looking to purchase footwear articles might help providing deeper insights into the hypothesis tested in this study. Nevertheless, targeting specific demographic age groups such as Gen Y and Gen Z Thai population might help understanding the spending power and trends for footwear industry in Bangkok, Thailand. Nevertheless, the present research found low significance between Thai consumer behavior and offline shopping therefore further research on might be useful to identify any potential shifts in the Thais attitude towards offline channels in Thailand.

Limitations

The findings and conclusions presented in the research are only valid within the population selection and can not to be generalized elsewhere due to the differences in environmental factors and individual opinions of the respondents. To better understand the impact of Marketing Mix, Brand image, and Consumer Behavior on the Online and Offline shopping in Bangkok would require a wider research geographically and quantitatively. Considering the limited time and scope of this research, many theories related to the social media and consumer purchasing behavior were covered briefly so as to provide a big picture of the research context for the readers.

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Appendix

	Questions	Sources
Section 1: Demographic information 1. Gender 2. Age 3. Education 4. Occupation 5. Revenue		Lu (2017)
Section 2: Brand image and marketing mix (7PS) towards customer experience. (Likert Scale)		
Place	The brand offers various channels to buy products. Their shopping environment is visually appealing. Their shopping environment lengthens my time in their place (or apps). Their shopping atmosphere impresses me in overall picture.	Garretson (1998)
Promotion	I feel positive towards the brand advertising and promotions. They are working well in advertising and promotions. Their advertising and promotions are clear and informative. I react favorably to the brand advertising and promotions.	Lu (2017)
Product	I feel satisfied with the quality of their products. I feel satisfied with their product assortment. According to what I purchased, the products provide me the decent value. I feel satisfied with the products I purchased in overall picture.	Garretson (1998)
Price	I feel satisfied with the price they set for the products. I believe the product has perceived value equally to the price. I feel positive towards their pricing strategy. Their pricing strategy is visually reasonable.	Yusuf, Nurmalina, & Syuaib (2015)
People	Their staff actively responds to my needs. Their staff take care of me very well. Their staff are willing to give me their best service performance. I feel satisfied with the staff of the brand.	Hanjin-Soo (2010)
Process	The brand offers speed deliver of service. The brand provides great training for their staff. The brand stores open and close at the convenient time. I feel happy with their service processes in overall picture.	Hanjin-Soo (2010)
Physical Evidence	They offer comfortable ambience which makes me the better mood. The product packaging is highly qualified. The brand stores provide the spacious areas for me to walk around.	Yusuf, Nurmalina, & Syuaib (2015)

	I feel positive towards the brand store environment in overall picture.	
Omni-channel customer experience in general	I feel happy with the product I purchased from the brand My customer experience with the brand seems excellent in overall. My choice of the brand meets my maximum expectations. I feel happy with the service they provide in overall picture.	Hanjin-Soo (2010)
Section 3: Customer behaviors 1. Before being told, I was aware of the term Omni-channel and its meaning. 2. What kind of shopping channel do you like to buy shoe? 3. How often do you buy shoes? 4. How much time do you spend in every visit? 5. Which websites do you generally visit and like to use? 6. Do look for deals or compare prices before you make your online purchase? 7. Do you prefer Offline (in-store) shopping when compared to online shopping? 8. When you go offline shopping, do you like to go along with friends or family who help you in making choices? 9. Do you value the suggestions or help from the friendly salesman at exclusive stores? 10. Do the following channels ever stimulate you to buy shoes? 11. To what extent are you using the below channels to search for information on product? 12. How often do you buy shoes via the following channels? 13. Please indicate how often you let shoes be delivered in the following way. 14. If you need service for your bought shoes, how often do you contact the shop through the following channel?		McCorkindale, Di Staso. & Sisco (2013)
Section 4: Online and offline shopping **Online shopping** 1. The shopping online save time. 2. The advantage to be able to shopping online any time of the day. 3. The rate of overall online shopping experience. 4. I will encourage others to shop online. 5. I am likely to return shopping online at webpage. **Offline shopping** 1. I like to spend time when shopping at physical store. 2. I like to go along with friends or family who help you in making choices. 3. I like to get help from the friendly salesman at exclusive stores 4. The channels ever stimulate to buy shoes at physical store.		McCorkindale, Di Staso. & Sisco (2013)

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THE DEVELOPMENT OF CUSTOMER JOURNEY ON PATIENT SERVICE DESIGN: A CASE STUDY IN HEALTHCARE BUSINESS IN THAILAND

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Abstract

The purpose of this study is to explore the patient service touchpoints in the healthcare business. This study adopted a qualitative approach for the research process. The patient service touchpoints are perceived as the influencing stage of patient satisfaction during the patient journey. The documentation research, semi-structured interview, and participant observation were conducted to collect data prior to the content analysis. The study was conducted with thirty informants from healthcare professional groups in Thailand. They were doctors, nurses, and supported staff sharing their insights for the current study. This study focuses only on the patient journey of Out-Patient-Department (OPD). The results of the interviews indicated three main periods of the patient journey. There were pre-medical service period, in-medical service period, and post-medical service period. In addition, from the result of the interviews, it also indicated ten critical patients' service touchpoints under three main periods of the patient journey; four touchpoints found in the pre-medical service period, three touchpoints found in the in-medical service period, and three touchpoints found in post-medical service period. The discussions, conclusions and implications were also provided.

Keywords: service design, service touchpoints, patient journey, healthcare business

Research background

Thailand is now in a transition to totally become an aging society. The organization is stated that any countries with more than ten percent of citizens who are sixty years old and above from the total number of citizens are considered to be turning into an aging society (The Siam Commercial Bank Public Company Limited, 2021). In addition, the country ultimately becomes an aging society when the ratio of citizens who are sixty years old and above has risen to twenty percent. In the near future, the percentage of citizens who are sixty years old and above will exceed twenty percent of the overall citizens. The potential situation results from the technology and medical development that allows longer lives to citizens while the birth rate falls gradually (Ketsara, 2019). Therefore, the healthcare and wellness industry should be prepared for an aging society, especially in Thailand.

The Thai government would continue to support the healthcare industry under a strategic plan to develop Thailand into a global medical and wellness center hub by 2026 (Krungsri Research, 2021). Nevertheless, since 2003, successive Thai governments have pursued the goal of establishing Thailand as the regional medical hub. Then, this has been a major driver of the growth of the private healthcare sector and the development of the medical tourism industry. There have been the increasing development in large private sector hospitals, specialist hospitals, and medical centers, specialist diagnosis and treatment clinics, and care centers or care homes for the unwell and the elderly. These businesses continue to grow at a healthy rate since the service providers are prepared to deliver high-quality care to the patients (Krungsri Research, 2021). In addition, to secure long-term growth and increase the market share, many hospitals have been investing more to expand their premises and commercial network. There were developing existing premises, building new hospitals and clinics in regional centers, tourist destinations, and border regions to meet demand from neighboring countries, or even buying shares in other profitable hospital groups.

Furthermore, several hospitals have formed partnerships with other healthcare service providers both domestically and abroad to expand their network to receive or refer patients or develop new specialist market segments. Besides, many companies are also generating additional income by developing new product lines such as pharmaceuticals and medical supplies, food supplements, cosmetics, and establishing beauty clinics and care homes for the elderly (Krungsri Research, 2021). Therefore, the rising interest in personal health and wellbeing is also a key driver of healthcare business growth.

However, service quality is also considered one of the most important factors in patient expectations. According to Rungroje (2019), service quality in healthcare is defined by customer perception. Healthcare businesses, both public and private sector, try to develop service quality and perception of the organization. Most of them would like to gain more competitive advantage from competitors and more patients satisfaction. This study was adopted the service design concept into the patient satisfaction development in healthcare businesses. Service design is defined as the design that primarily considers all stakeholders' experience, not limited to service receivers and service providers. Service design is also taking stakeholders, relating along the whole service process into account. It is believed that a collaboration of stakeholders at every step will generate an effective service design (Lin, M., Li, F. Y., & Ji, Z., 2020; Lu, P., Liao, H. T., & Lei, J., 2020)

In addition, service design requires multidisciplinary concepts; hence, the definition of service design will not be explained by a single discipline (Stickdorn, Hormess, Lawrence & Schneider, 2018; Buchanan, 2001). The foundation of service design processes is developed from human-center design concept aiming to solve users' problems by utilizing research and design competency. Service design has been continuously developing, attempting to serve the best experience to all individuals within the processes, apart from consumers (Skooldio, 2021). There are various tools available for service design. Service design experts advise that it is not necessary to strictly follow tools usage guidelines since it will contrast with service design principles that promote variety of problem-solving and improving methods. Service designers are flexible in applying any tools to a project's purposes (Geke Van Dijk, Bas Raijmakers, & Luke Kelly, 2014; Lin, et al., 2020). Service design tools are customer journey maps, stakeholder mapping, personas, service blueprint, service safari, shadowing, contextual interview, mobile ethnography, expectation maps, idea generation, design scenarios, storyboards, Agile development, service roleplay, customer lifecycle maps, and business model canvas (Geke, et al., 2014). Customer journey maps are popular tools for service design. Furthermore, customer journey maps demonstrate consumer decision-making processes, including prior being the customer and becoming a customer, which the result will be brought to create or develop service design concepts (Geke, et al., 2014; Lin, et al., 2020).

Consequently, this paper aimed to explore the patients' service touchpoints in the healthcare business. As the patients' service touchpoints are perceived as the influencing stage of patient satisfaction, this study was adopted customer journey maps as a service design tool to explore the patients' service touchpoints in the healthcare business in Thailand.

Research objectives

This research aims to explore the patients' service touchpoints in the healthcare business in Thailand. This study adopted a qualitative approach for the research process. The patients' service touchpoints are perceived as the influencing stage of patient satisfaction during the patient journey. The documentation research, semi-structured interview, and participant observation were conducted to collect data prior to the content analysis. The study was conducted with 30 key informants from healthcare professional groups in Thailand. They were doctors, nurses, and supported staff. This study focuses only on the patient journey of Out-Patient-Department (OPD).

Research questions

To achieve the objectives of this research, the following research question was developed to address this research study of the healthcare business in Thailand; "What are the patients' service touchpoints that perceive as the influencing stage of patient satisfaction on the customer journey map?"

Literature review

Healthcare businesses in Thailand

According to an announcement of information on the number of health agencies from the policy and strategy division (Office of the permanent secretary ministry of public health, 2017), Thailand offers more than 38,512 properties in healthcare services, including thirty-five percent of state-funded public health centers, district public health offices, and community or general hospitals. At the same time, the remaining 65 percent were private businesses and ventures such as private clinics and hospitals. Under the size and range of medical services offered, 98.3 percent were classified as primary healthcare providers while others were secondary and tertiary healthcare providers. Although state hospitals serve the patient in Thailand, their capacity and service delivery to serve patients are limited in some contexts. This weakness of government healthcare providers would lead an opportunity for private healthcare providers to improve, typically emphasizing the speed and convenience of services and supporting middle-class customers who have sufficient spending power to turn to private hospitals despite charging more than government hospitals for equivalent services (Krungsri Research, 2021). In addition, tax exemption and other government-supporting policies are core motivation factors of private hospital investment.

Furthermore, business expansion has been driven by rising demand from patients in neighboring countries, while health and wellness tourists have also been rising steadily. All factors have stimulated the investment of healthcare investors in a variety of platforms of business, such as some large and dynamic operators have engaged in mergers and acquisitions. In addition, some companies opened new hospitals in critical regional centers of Thailand, and bought into other private hospitals as investment and to extend their commercial networks. Moreover, the transformed businesses have increased their competitiveness and help them to target more niche markets also (Krungsri Research, 2021; The Siam Commercial Bank Public Company Limited, 2021). In addition, the Thai government also supports the industry included in promoting Thailand as an international healthcare hub; this main strategy is aligned with rising interest worldwide in medical tourism and helps to attract more foreign patients. From now to 2024, the Tourism Authority of Thailand (TAT) will promote the country as the medical and wellness resort of the world. This campaign will raise the interest in personal health and wellbeing, also prompting hospitals to venture into the wellness industry. Furthermore, the policy of designating Thailand's medical industry and medical hub status is regarded as a new S-curve industry. The government has offered a range of incentives, such as a tax exemption to attract overseas investors. It included setting up facilities for the research and development of medical innovation and pharmaceutical products and services. This supported policy helps private hospitals cut operation costs while increasing competitiveness (Krungsri Research, 2021).

Service design concept

According to Stickdorn, Hormess, Lawrence, and Schneider (2018) explains that the term "service design" is defined as the design that primarily considers all stakeholders' experience, which is not limited to service receivers and service providers. Service design is also taking stakeholders relating along the whole service process into account. It is believed that a collaboration of stakeholders at every step will generate an effective service design. Collaboration can bring pleasure to all, for example, producers, suppliers, distributors, and local people. In addition, service design is interdisciplinary which combining different methods and tools. This new method or concept differs from the former, focusing on only one method or tool from a particular discipline. Service design is progressively developed; therefore, a common definition or clear explanation has not been available. To provide a single definition will limit the evolution and development of service design concepts and ideas that are gradually growing throughout time (Stickdorn, et al., 2018). Buchanan, R., (2001) agreed that to settle service design definition into a specific field is obsolete and unacceptable since it does not conform to multidisciplinary concepts of service design. Therefore, service design requires multidisciplinary concepts; hence, the definition of service design will not be explained by a single discipline and the development of service design is related to several fields for different purposes (Buchanan, R., 2001: Lin, et al., 2020; Stickdorn, et al., 2018).

As Thailand Creative and Design Center explained (TCDC, 2015), service is appended to a direction of organization development regarding organizational context. Development of service design has begun with the need to respond and to satisfy customer's desires. It includes, first, '*Service Marketing*', which it focuses on marketing for service businesses. Then, '*Service Engineering*' attempts to provide engineering construction to customers. In addition, '*Service Management*' mainly aims at organization management. Next, '*Service Science*' is innovation development to establish a new service form, increasing potential competition. Finally, '*Service Design*' is a combination of service design for an organization developing direction which it concerns to all stakeholders, i.e., staff or service providers, customers or service receivers, and other individuals or units relating to service processes (TCDC, 2014). From all definitions mentioned, whether it is academic approach or agency approach, it concludes that service design is an integration of interdisciplinary aiming to solve the problems, to develop, to improve, and to create innovation by adding service value to the user as well as concerning to all people throughout the processes. The users also desire this service while it contributes efficiency and effectiveness to either firm or service designer.

Service design processes

The basis of service design processes rises from human-centered design concept aiming to solve users' problems by utilizing research and design competency. The service design procedures are similar to design thinking (Skooldio, 2021). Service design has been continuously developing, attempting to serve the best experience to all individuals within the processes, apart from consumers. Thinking steps consist of the followings. Firstly, it is about understanding users, consumers, and related stakeholders (Empathize). Secondly, problem must be clearly defined and identify what should be done to solve the problem (Define). Thirdly, there is brainstorming to discover the methods to solve an existing problem (Ideate). Fourthly, it tests the prototype of problem-solving methods founded in the previous stage (Prototype), such as solving plan, simulation situation, model prototype, service standard blueprint. Finally, it is accurate situation testing and evaluating whether the prototype is effective and can solve an existing problem in a real situation. It will be developed to be more potential (Skooldio, 2021). Because there is no general definition of service design, Stickdorn and Schneider (2014) provided five essential principles. First, *user-centered* service design should transfer experience regarding consumer perception. It should not be present only from the perspective of the service provider or designer. The second is *co-creation*. A co-creation of stakeholders through the entire process enables various viewpoints reflection for solving the problems. Third, *sequencing*, well design service will reveal the causes and effects of the performance to stakeholders at every step sequentially; therefore, everyone will realize the relationship of causes and effects of service design in the same direction. Fourth, *evidenc*e, the service designer must present an intangible service through the tangible physical product to create a touchable feeling even though it is untouchable. The last principle is *a holistic viewpoint*. Service designer has been suggested not to consider only one part of a specific service process but rather to concern the whole environment relating to service design aiming to the highest effectiveness (Stickdorn, M. S., & Schneider, J. 2014).

Even though service design has employed a design thinking concept for the designation, service design processes have been adapted for the appropriateness of the designing processes. TCDC (2014) explains that service design processes involve three steps; they are 1) Exploration, 2) Creation, and 3) Reflection and Implementation. TCDC (2014) further explores the step of surveying and collecting insightful data by applying ethnography research to identify the needs of users, consumers, and stakeholders in each process. Surveying and collecting data reveal gaps or opportunities for a suitable service design to a unique event or context. This agreed with the definition provided by Dusit Thani College (2020) that exploration is collecting data through observation where the data will be analyzed to identify the problems affecting consumer's behavior in service processes. Collecting data brings crucial information to establish service design. The next step is the creation of a service concept which is the result of surveying and collecting data. It promotes co-creation among different service providers who are called to join in service design processes to add value to product and service (TCDC, 2014). Similarly, Dusit Thani College (2020) states that creating a service design concept is the outcome gained from survey and data collection. This stage focuses on designing a unique product or improving brand personality and designing a consumer experience that connects touchpoints between service providers and receivers throughout the journey: pre-, during, and post-service. The last process is implementation. The outcomes of the previous step will be brought to create a prototype and to study feasibility. Various kinds of prototypes can be created, such as diagrams, service models, simulation situations. The prototype will be tested for the effectiveness of each concept. After the test, the opinions of all stakeholders are welcomed for improvement. The test will be done repeatedly so that the most suitable concept meets the service design purpose as well as the requirement identified at the beginning. Consequently, a selected concept will be used, serving convenience and satisfaction to stakeholders entirely (Dusit Thani College, 2020)

TCDC (2015) describes that firm can be accomplished service design through different methods depending on the project type, purposes, and service designers of the firm. The designers can initiate working processes based on creative thinking principles and thinking categories. *Divergent thinking* refers to thinking about the new matter or examining The feasibility of existing approaches that might be used differenty. *Convergent thinking* is analyzing thinking for selection and decision process where all ideas will be accumulated to solve the problem directly or be summarized unambiguously. Notably, knowledge, expertise, reason, and logic are drawn to make the best decision. Service designers are suggested to add flexibility and variety to service design processes depending on context characters, duration, and existing resources. The feasibility of creative thinking processes variety accounts as one of the creative thinking processes. Thinking processes employed by TCDC have been developed from Double Diamond Model, which The British Design Council first initiated in 2005 (cited in TCDC, 2015). The model aims to explain attitudes and work processes that combine creative thinking and design process. Double Diamond Model is a mixture of four procedures which are 1) discover; gathering rich and adequate data for design processes, 2) define; analyzing and summarizing important issues, 3) develop; brainstorming all stakeholders to produce feasible concepts for solving, developing, and improving the problems as well as for meeting service design requirements, and 4) deliver; combining various ideas to create the best service design for the market (TCDC, 2015).

Moreover, Double Diamond Model focuses on three diamond shape alignment assisting the efficiency and effectiveness of service design. The first connector is *initiate*, referring to an establishment of the project's vision strategy. Service designers discuss with all shareholders to analyze trends, competitors, advantages of the firm, and other related issues to set goals and roles of the service design project to the firm or target group. The second connector is *brief*, describing a summary of all data gathered from two steps within the first diamond. It clarifies usage needs of project and service design developing direction such as problem, goal, plan, and duration for designing. The last is *launch* referring to the last connector after the second diamond in the model, including commercial benefit as well. This process also means examining and improving possible defects that might occur during usage of the service, targeting the highest efficiency and effectiveness (TCDC, 2015).

Service design tools

There are various tools available for service design. Service design experts advise combining different tools appropriate to design context and purposes, and the outcomes will be different in each project. It is not necessary to strictly follow tools usage guidelines since it will contrast with service design principles that promote a variety of problem-solving and improving methods. Service designers are flexible in applying any tools to a project's purposes (Geke, et al., 2014). Service design tools are stakeholder mapping, personas, customer journey maps, service blueprint, service safari, shadowing, contextual interview, mobile ethnography, expectation maps, idea generation, design scenarios, storyboards, Agile development, service roleplay, customer lifecycle maps, and business model canvas (TCDC, 2015; Geke, et al., 2014).

Even if there are various tools mentioned above, this section illustrates preferable tools. To begin with *stakeholder mapping*, this is to demonstrate the whole picture of stakeholders throughout service design processes. It will show the relationship of each unit and direct and indirect impacts to identify the degree of involvement of each stakeholder (TCDC, 2015; Geke, et al., 2014). Another is *personas*. This tool assists more understanding to target users which the personas will represent actual users holding unique personalities, i.e., behaviors, habits, interests, expectations, and problems. Service designers will gain different characters from the personas for creating service system concepts that directly reference the behavior and needs of different target users (TCDC, 2015; Geke, et al., 2014). In addition, *customer journey maps* are favorable. This offers the better understanding to consumer's behavior, viewpoints, and feeling that experiencing through touchpoint among service providers, service receivers, and an entire stakeholder. Customer journey maps demonstrate consumer decision-making processes, including prior being the customer and becoming a customer, which the result will be brought to create or to develop service design concepts (TCDC, 2015; Geke, et al., 2014). The last is *the service blueprint*. Service blueprint gains much preferable by service designers as it illustrates a holistic picture of the working system with specific details of each service unit, including front of the house, and back of the house, such as information technology system and human resource management system. Customer journey maps show reflections in a holistic picture at every service period since the details of pre-service, during service, and post-service are required (TCDC, 2015; Geke, et al., 2014).

Research methodology and data collection scope

This study was considered qualitative research that used an in-depth interview technique. The data collection of research began with semi-structured interviews. In this step, a qualitative approach was used to obtain essential information and understanding the actual context of the patient journey in the healthcare business. Purposive and snowball sampling was initially used to identify key informants in the healthcare business in Thailand. There were many sampling techniques which are based on non-probability samplings, such as purposive, convenience, quota, and snowball sampling techniques (Neuman, 2006). However, this study employed purposive sampling and snowball sampling technique as it was the most suitable tool matching the research's aim and target population. While purposive sampling implied to the technique that researcher purposively selects key informant that fits with the particular criteria of the study, snowball sampling is the technique that starts with a small group of key informants then extends the sample size through referrals based on the initial selected key informants (Neuman, 2006; Yin, 2013).

The interview was conducted with thirty participants from healthcare professionals group in Thailand. They were doctors, nurses, and supported staff as shown in Table 1. Consequently, colleagues, acquaintances, and friends could be referred to in these techniques. The appropriate sample size for an in-depth interview was around fifteen to twenty-five informants or until the data reached the saturation point (Chareanporn, T., Mingmalairaks, P., & Kumsuprom, S., 2020; Riley, 1995). Furthermore, Patton (2002) affirmed that there were no specific rules for deciding the sample size if the size could provide significant insights into research issues. In general, the sample size was often decided by resource constraints which depend on the cooperation of research informants or even their effort and contribution to the researcher. Also, a number of the chosen participants were manageable in terms of time frame and resources available. The target respondents were selected on the assumption that they willingly accepted to be interviewed. Each interview was conducted around one hour on average. There was an examining case by comparing the case classified by themes with multiple cases within cross-case analysis (Creswell & Clark, 2011; Edmonds & Kennedy, 2017). Then, the data analysis was done by analyzing each interview from observation notes and grouping the issues found by classifying them into different themes. Furthermore, the data analysis took the form of thematic analysis by using the constant comparative method to identify and refine new categories. The validity of the data was assured by comparing statements from the interviewees in healthcare businesses with multiple data sources—nevertheless, this study scope only on the patient journey of Out-Patient-Department (OPD).

Tabe1 Participants list from healthcare professionals group

Code	Position/ Title	Age	Healthcare Org
HP1	Senior nurse	52	Public hospital
HP2	Doctor	60	Public hospital
HP3	Doctor	35	Public hospital
HP4	Nurse	27	Public hospital
HP5	Senior nurse / Assistant director	46	Public hospital
HP6	Pharmacist	34	Public hospital
HP7	Senior nurse / Claim center manager	40	Public hospital
HP8	Doctor / Assistant director	54	Public hospital
HP9	Telephone operator	28	Private hospital
HP10	Senior nurse	40	Private hospital
HP11	Cashier	25	Private hospital
HP12	Customer Service	30	Private healthcare business
HP13	Doctor / Management team	57	Private healthcare business
HP14	Senior nurse	48	Private healthcare business
HP15	Laboratory investigation (Lab test) officer	29	Private healthcare business
HP16	Doctor / Assistant director	57	Private hospital
HP17	Senior nurse / OPD manager	43	Private hospital
HP18	Cashier	33	Private hospital
HP19	Telephone operator	35	Private hospital
HP20	Senior nurse	50	Private hospital
HP21	Pharmacist	37	Private hospital
HP22	Doctor / Assistant director	61	Private hospital
HP23	Customer assistant	30	Private hospital
HP24	Customer service manager	46	Private healthcare business
HP25	Hospital porter assistance	25	Private healthcare business
HP26	Senior doctor	60	Private healthcare business
HP27	Doctor	38	Public hospital
HP28	Customer service manager	40	Public hospital
HP29	Pharmacist and Dispensing station manager	39	Public hospital
HP30	Laboratory investigation (Lab test) officer	33	Public hospital

Research findings

The results provide a rich summary of the variety of the patient journey in the healthcare business in Thailand. Thirty informants described three main periods of the patient journey. The findings could be categorized into three periods: 1) Pre-medical service period; 2) In-medical service period; and 3) Post-medical service period, which was repeated by more than one healthcare professionals from the case analysis. The healthcare professionals saw them as key patients service touchpoints that were found to help develop patient satisfaction. Each patient journey period contained specific influencing service touchpoints that directly relate to patient satisfaction development; four service touchpoints found in the pre-medical service period, three service touchpoints found in the in-medical service period, and three service touchpoints found in the post-medical service period.

1) Pre-medical service period

The result found that information transaction and doctor appointment or reservation, front counter and parking and patient pickup point, medical record and registration, vital signs measurement, and medical history taking are service touchpoints in the pre-medical service period. Information transactions and doctor appointments or reservations are related to the information provided on healthcare business websites or social media platforms such as Facebook, Instagram, Twitter, YouTube. Most of the patients prefer to know the basic information of business or company before making their decision. Accurate information and reliability are essential for healthcare businesses. For doctor appointments or reservations, some organizations allow the patient to appoint the doctor or reserve the seat for the medical service queue via an online channel. Furthermore, pre-consultation or information supplication has been provided via telephone and social media applications such as Line, WhatsApp, Facebook, Instagram, Twitter, Messenger, and WeChat. The information transaction and doctor appointments or reservations with healthcare professionals are essential touchpoints in healthcare businesses to make patients trustworthy. The front counter, parking, and patient pickup point are concerned with greeting and hospitality service procedures, car parking and support facilities, and hospital porter assistance. The front area was the first impression creation point of the healthcare business. Hospitality procedures by healthcare professional staff included greeting, smile, eye contact, warm welcome speech, qualified assistance with attention. Medical record and registration touchpoints had to be established to generate patient profiles and hospital numbers (HN) and included initial history taking for new patients who never visited or used the healthcare business service before. In addition, the next touchpoint under the pre-medical service period is vital signs measurement and medical history taking. This touchpoint was including of blood pressure, temperature, pulse, and respiration. Furthermore, medical history taking was also included in this period because the healthcare professional has to identify a particular clinic or expert doctor for the patient's illness. Thus, these service touchpoints were important to consider as healthcare professionals mentioned: information transaction and doctor appointment or reservation, front counter and parking and patient pickup point, medical record and registration, and vital signs measurement and medical history taking. Three respondents highlighted pre-medical service period that:

“We provided all basis and essential information such as products and service list, package, and estimated service fees on our websites. In addition, our customer can call to use our pre consultation service before they come to see the doctor as appointment.” (HP12)

“It so easy to make an appointment with the specialist. The patient just accesses to our websites or Facebook page then chat with our customer service officer to reserve the seat.” (HP24)

“Before patient go to see the doctor, our medical record and registration staff will check patient’s health insurance and welfare benefit and create patient profile and hospital number (HN) …” (HP20)

One informant further asserted that:

"Vital signs measurement and medical history taking are important procedure that we have to service the patient in pre-medical service period. There were blood pressure, temperature, pulse, respiration, and medical history taking with new comer patients." (HP4)

2. In-medical service period

With extensive experience working in the healthcare business, most healthcare professional informants pointed out that the medical service and diagnostic service, medical procedure or nursing procedures, and medical miscellaneous treatment service were the critical service touchpoints in the healthcare business in Thailand. The informants mentioned that the great and warm ambient of doctor consultation and diagnostic service helps to increase patient satisfaction and patient loyalty. The medical or nursing procedures from doctors and nurses are also identified as important service touchpoints. There were the therapeutic, i.e., intended to treat, cure, or restore function or structure such as surgical and physical rehabilitation procedures. In addition, medical miscellaneous treatment service was included in the in-medical service period also. The miscellaneous treatment service was the medical service such as x-ray, ultrasound, MRI scan (Magnetic Resonance Imaging), or CT scan (Computerized Tomography). For the In-medical service period, the interviews showed three influencing service touchpoints that could affect or use to improve patient satisfaction: medical service and diagnostic service, medical procedure or nursing procedures, and medical miscellaneous treatment service.

For example, informants gave a general procedures in-medical service journey:

"Most of our customer prefer to consult with the same doctor for the second time because they appreciated with medical service and diagnostic service" (HP8)

Similarly, one informant explained that in-medical service is a part of patient journey and it has impact to patient satisfaction also. For instance,

"The cherish medical and nursing procedures from healthcare professionals is key factor to attract the patient come to use our healthcare service. There were therapeutic (i.e., intended to treat, cure, or restore function) and surgical and physical rehabilitation procedures etc." (HP17)

One respondent further asserted that:

"…Most of our medical miscellaneous treatment service can generated more revenue to our business such as x-ray, ultrasound, and lab test (Laboratory Investigation). In addition, MRI scan (Magnetic Resonance Imaging) and CT scan (Computerized Tomography) are also popular service that can generate more revenue…" (HP1)

3. Post-medical service period

There was evidence showing that the post-medical service period also directly concerns patient journey in the healthcare business. Most informants mentioned that claim center, cashier, and dispensing or pharmacy were crucial service touchpoints of the patient experience. Most of the patients they concerned about health insurance and welfare benefit right identification accurately, the number of expenses in the billing system, and medicine or drug receiving. The speed time of the service process in this period is essential. Most patients do not want to spend more time after using all medical services in the healthcare business. Thus, the post-medical service period was another key service touchpoint that healthcare businesses could not de-prioritize inpatient service journeys, as vital informants mentioned in the interview session. Two respondents illustrate post-medical service issue as follows:

"After medical service such as diagnostic service or medical procedures, health insurance and welfare benefits reconfirmed of the patient will process by claim center department" (HP7)

"In general, before pick up or going to dispensing station, the customers have to experience with queue and billing system. Previously, they complain a lot with the service speed and waiting time. Then our healthcare business also facilitates them by reduce waiting time and adding more staff to increase service delivery speed. We try to cover all problems and facilitate our customer in post-medical service to make them satisfy with our value services." (HP13)

A similar view from one informant indicated that post-medical service is a part of patient journey:

"Medicine or drug receiving is the last service encounter of patient experience. Many expectations also expected by the customer such as medicine advisement with warm and friendly sense. Furthermore, the speed time of the service process of this period is essential. Most of patients do not want to spend more time after using medical services, especially in post-medical service as pharmacy station" (HP29)

Conclusion and discussion

The objectives of this research were to explore the patient service touchpoints in the healthcare business in Thailand. The study adopted a service design concept approach to identified patients service touchpoints that are perceived as the influencing service encounter of patient satisfaction. This study focuses only on the patient journey of Out-Patient-Department (OPD). The thirty cases had strong service provider in the professional healthcare business in Thailand, including doctors, nurses, and supporting staff.

As the service design concept was adopted in this research, this study was selected customer journey maps as a service design tool to explore the patient service touchpoints in the healthcare business in Thailand. As Thailand Creative and Design Center (TCDC, 2015) mentioned, service designers have been suggested to add flexibility and variety to service design processes depending on context characters, duration, and existing resources. Thus, this research was adopted the thinking processes employed by TCDC. It has been developed from the Double Diamond Model, which The British Design Council first initiated in 2005. The model aims to explain attitudes and work processes that combine creative thinking and design process. The Double Diamond Model is a mixture of four steps: discovered, defined, developed, and delivered (TCDC, 2016). This research follows the model which is 1) discover; the researcher gathering information from healthcare professionals, patients who experienced in OPD, and related documents then adequate data about for design processes, 2) define; after gaining more information from informants and documents enough, the researchers analyzing and summarizing essential issues such as service design process, service touchpoints, patient journey, and current healthcare business situation in Thailand, 3) develop; brainstorming to produce feasible concepts for developing the patient service touchpoints in the healthcare business to satisfy the patient experience which customer journey approach as well as for meeting service design requirements, and 4) deliver; combining various ideas to create the suitable procedures guideline of service design for the healthcare professional entrepreneur, investor, or developers.

From the results, the findings indicated that all healthcare businesses require patient service touchpoints development. Most of them try to identify service encounters and create products and services to serve or satisfy patient expectations and satisfaction. The findings could be categorized the patient service journey into three periods; 1) Pre-medical service period; 2) In-medical service period; and 3) Post-medical service period, which was repeated by more than one healthcare professionals from the case analysis. The healthcare professionals saw them as key patient service touchpoints that were found to help develop patient satisfaction. Each of these patient journey periods contained specific influencing service touchpoints that directly relate to patient satisfaction development: four service touchpoints found in the pre-medical service period, three service touchpoints found in the in-medical service period, and three service touchpoints found in the post-medical service period. In addition, Stettler et al., (2018) highlighted the importance of services experiences in the service process as one of the most important components in service design.

Based on all the touchpoints in the customer (patient) journey map of the healthcare business (Out-Patient-Department) and the direction of the key service design innovation derived from patient demand and expectation which fulfill the touchpoints, it is possible to form an innovation design of opportunity points that the patient needs to carry out of healthcare business. The innovative design of opportunity patient touchpoints from the service design approach is mainly based on the result of the service design process. By analyzing the three main periods of medical service, patient service touchpoint innovation procedures were clearly investigated and developed, as shown in Table 2. This is an innovative design of opportunity points based on patient demand and expectation from a healthcare professional perspective. The details were as follows;

1) Innovative design of opportunity points in pre-medical service period; in terms of information transection and doctor appointment or reservation, innovative design of opportunity points in this touchpoint could be developed user-friendly website and use popular social media to the potential facilitated customer. Yoopetch (2018), stated that social media had crucial influence on the service design in various services industry. In addition, the healthcare business should provide educated customer service staff to deliver essential information about healthcare products and services and pre-consultant the customers. However, all information

must be accurate and reliable information. In addition, both online platforms and telephone should be one of the channels that customer can use to appoint the doctor or reserve a seat for the medical service queue. For front counter and parking and patient pickup point, hospitality service and professional greeting procedures of front area staff are the innovative design of opportunity points to create the first impression such as hospital porter assistant, hostess, valet service staff. The first impression that healthcare professionals can set as service standard such as greeting conversation, warm welcome speech, assistance with attention procedures. For medical records and registration, it is an important touchpoint for the patient journey also. The communication and hospitality service procedures are the innovative design of opportunity of this touchpoint. Because the staff has to generate a patient profile, hospital number (HN), initial history taking for a new patient who never visits or use the healthcare business service before, and health insurance and welfare benefit right check. In terms of vital signs measurement and medical history taking, the innovative design of opportunity point are skillful, educated, and great communication healthcare professionals. This touchpoint was step of blood pressure, temperature, pulse, respiration etc. In addition, it also including of medical history taking that healthcare professional has to identify a special clinic or expert doctor for the patient illness.

2) Innovative design of opportunity points in in-medical service period; from the result, it was found that in in-medical service period during the patient journey, the medical service and diagnostic service, medical procedure or nursing procedures, and medical miscellaneous treatment service were the innovative design of opportunity points. The great and warm ambient of doctor consultation and diagnostic service is necessary for healthcare professionals. It can lead to patient satisfaction and loyalty. For medical or nursing procedures from doctor and nurse also identified as innovative design of opportunity points. The competence healthcare professionals have been required for this touchpoint. The activities were the therapeutic, i.e., intended to treat, cure, or restore function or structure such as surgical and physical rehabilitation procedures. In terms of medical miscellaneous treatment service, it is the innovative design of opportunity points also. The knowledgeable and competent healthcare professionals have to concentrate with patient. For the miscellaneous treatment service was the medical service such as x-ray, ultrasound, MRI scan (Magnetic Resonance Imaging), or CT scan (Computerized Tomography), Lab test (Laboratory Investigation) etc.

3) Innovative design of opportunity points in post-medical service period; from the finding, it was found that claim center, cashier, and dispensing or pharmacy were the innovative design of opportunity points in post-medical service period. All crucial service touchpoints of patient experience require competence, great communication, and hospitality and service mind staff. Most of the patients are concerned about health insurance and welfare benefit right identification accurately and reconfirmed in the claim process. The accuracy of medical and service fees in the billing system and dispensing have been required. In addition, the queuing system

was an innovative design of opportunity point that healthcare business should be a concern. The speed of service time in the service process is also the focal point of the post-medical service period. Additionally, Yoopetch (2010) suggested that to enhance innovation in services environment, the organization should increase the awareness of knowledge management, especially knowledge acquisition process to continuously improve the service development. Furthermore, Lu, et al. (2020) mentioned, service design thinking has been increasing the attention and attraction for customer in healthcare business and also creating a great potential in creating better. Agreeing with Patricio, L., Sangiorgi, D., Mahr, D., Čaić, M., Kalantari, S., & Sundar, S. (2020) explained, service design can contribute to the evolution of healthcare service system and also focus on patient centered for service satisfaction purpose. In addition, Ponsignon, F., Smart, A., and Phillips, L. (2018) suggested the theoretical insight into service delivery system (SDS) design, the customer journey can use as a frame to explore dimensions of experience quality that inform design requirements. It can help healthcare professional service provider deliver experience quality to patients.

Further research should investigate more types of healthcare businesses and apply a quantitative approach to increase the generalizability to reaffirm the results of the study. Nevertheless, this research was exploratory research that investigates the patient service touchpoints. It adopted a service design concept approach to identified patients service touchpoints that are perceived as the influencing service encounter of patient satisfaction. In addition, this study focuses only on the patient journey of Out-Patient-Department (OPD). They are limitations of the study. It was expected that this paper had the value that could provide an analysis of the crucial patient service touchpoints that adopted a service design approach to develop customer journey on patient service design in healthcare businesses in Thailand.

Tabe2 Patient journey and service touchpoints in Out-Patient-Department (OPD)

Periods	Service touchpoints	The innovative design of opportunity points
Pre-Medical Service	Information transection and doctor appointment or reservation	- Information on the website and social media platforms such as Facebook page - Telephone consultation with customer service and information distribution - Hospital application or social media application interaction such as Line, WhatsApp, Facebook, Instagram, Twitter, Messenger, WeChat.
	Front counter and parking and patient pickup point	- Greeting and hospitality service procedures - Car parking and support facilities - Hospital porter assistance
	Medical record and registration	- Patient profile and hospital number (HN) creation - Health insurance and welfare benefit right check - Initial history taking
	Vital signs measurement and medical history taking	- Vital signs procedures such as blood pressure, temperature, pulse, respiration. - Medical history taking
In-Medical Service	Medical service and diagnostic service	- Doctor consultation and diagnostic service
	A medical procedure or nursing procedures	- Medical or nursing procedures from doctor and nurse such as therapeutic (i.e., intended to treat, cure, or restore function or structure) such as surgical and physical rehabilitation procedures.
	Medical miscellaneous treatment service	- x-ray, ultrasound, MRI scan (i.e., Magnetic Resonance Imaging) , CT scan (Computerized Tomography), Lab test (Laboratory Investigation) etc.
Post-Medical Service	Claim Center	- Health insurance and welfare benefits reconfirmed
	Cashier	- Payment/ billing system - Queue system
	Dispensing/ Pharmacy	- Medicine/drug advisement - Medicine/ drug receiving

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THE IMPORTANCE OF INNOVATION FOR ENTREPRENEURIAL SUSTAINABILITY FOR SOCIAL ENTREPRENEURS IN ASIA-PACIFIC

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Abstract

Social entrepreneurs and the likelihood of re-investing their profits to serve the social or environmental purpose of their enterprises, is triggered by a variety of individual factors. This study explores the relationship between market-oriented product, service or process-related innovation and the likelihood that social entrepreneurs reinvest their profits towards their purpose of their enterprises .Utilizing Global Entrepreneurship Monitor data of ten Asia-Pacific countries, this empirical study investigates if product-, service -or process-related innovation is positively related to an increase in those social enterprises, who reinvest profits towards social goals .Our regression analysis findings show the importance of bringing innovative products and services to the market, combined with the educational level of the social entrepreneur in order to reach entrepreneurial sustainability .With research gaps on social entrepreneurship activities in the Asia-Pacific region and innovation as a driver for the sustainability of social enterprises in reinvesting profits towards their purpose, we point out that social entrepreneurship ventures need long-term nurturing, sustainable business models and innovative products and services to sustain their businesses.

Keywords : Asia-Pacific; innovation; social entrepreneurship; sustainability; youth

Introduction

To foster entrepreneurship, policy makers need to understand what influences individuals to attain sustained entrepreneurial success, especially in social enterprises. The aim of our paper is to explore the influence of market-oriented innovation in products and services or of production process-related innovation on the likelihood of social entrepreneurs to be involved in a more narrow definition of social entrepreneurship (Bosma et al, 2016).

This definition of a sustainable social enterprise entails the re-investment of their profits to serve the social or environmental purpose of their enterprise which applies only to 50 % of the social entrepreneurs globally (Bosma et al, 2016), thus contributing more to their business purpose by creating sustainable social enterprises.

Social entrepreneurship can be divided into two sub concepts: (1) approach- or impact-related, such as market orientation, social value creation, social entrepreneur, and social enterprise (Choi & Majumdar 2014); and (2) entrepreneur-related such as entrepreneurial innovation, entrepreneurial intent, entrepreneurial compassion, and entrepreneurial abilities. All social enterprises are affected by diverse contextual complexities to sustainably pursue both social and economic missions (Alvord et al, 2004; Miller et al, 2012; Mort et al, 2003; Tan et al, 2005). In a global comparison, Southeast Asia is the region with the least number of social entrepreneurs at just 3.8 % of the working-age population (Bosma et al., 2016). Social entrepreneurship in general, and entrepreneurship related to the United Nations' Sustainable SDGs in specific, is in the focus of many organizations in the Asia-Pacific region. There is a research gap on social entrepreneurship activities in the Asia-Pacific region in general (Sengupta & Sahay, 2017), and innovation as a driver for the sustainability of social enterprises in re-investing profits towards their social or environmental goal in specific. This empirical study explores if innovation of entrepreneurs in products, services and processes leads to those desirable social enterprises that re-invest their profits to achieve their social or environmental goals, in series making both enterprises and goals more sustainable. To do so, we employ the Global Entrepreneurship Monitor 2015 individual-level data in a pooled sample of the ten countries Australia, China, India, Indonesia, Iran, Malaysia, Philippines, South Korea, Thailand and Vietnam. We perform regression analysis in search for drivers significantly affecting the individual entrepreneur to be socially responsible and sustainable through innovation activities.

Social entrepreneurship

The 2030 United Nations Agenda for Sustainable Development recognizes the important role in achieving the SDGs or 'Global Goals'. Amongst others, it calls for action against the challenges faced by youth and other vulnerable groups that limit their economic, social and political inclusion. In today's highly connected world, people are more creative and more informed than any previous generation and are responding to the daily challenges with innovative approaches, contributing fresh ideas, creating the world they want, and driving human development for themselves, their communities and their societies (Guelich & Bosma, 2019).

Social entrepreneurs start and lead ventures seeking innovate solutions to address society's most pressing problems (Ashoka 2016; Bloom 2012). According to the Global Entrepreneurship Monitor (GEM) Special Topic Report on Social Entrepreneurship (Bosma et al, 2016), early-stage social entrepreneurial activity varies globally and lags behind commercial entrepreneurial activities (Terjesen et al, 2016). Measured by the percentage of adults between ages 18 to 64, who are currently trying to start a social purpose business, the global average of social entrepreneurship is 3.2 %. By comparison, the rate of start-up commercial entrepreneurship in the same regions is on average more than twice as high with 7.6 % globally. Of the world's social entrepreneurs, an estimated 55 % are male and 45 % are female – a gender gap that is less pronounced than in commercial entrepreneurship. The gender gap in commercial entrepreneurship is globally 2:1, which implies that women are half as likely to start a business as men (Terjesen et al, 2016). World regions with the highest social entrepreneurial activity, both in the start-up phase and the operational phase, are the United States and Australia (11 %), followed by Sub-Saharan Africa (9 %). Southeast Asia is the region with the least number of social entrepreneurs at just 3.8 % of the adult population (Bosma et al., 2016).

There is no one-size-fits-all blueprint for institutions to enhance social entrepreneurship. Some studies favour the institutional void perspective (e.g. Mair & Marti, 2006), referring to the idea that -with an absence of institutional support in an environment where problems are abundant- motivation for social entrepreneurship increases. A countervailing perspective to this is institutional support, which explains that more active governments are able to reinforce social entrepreneurship (Stephan et al, 2015). Although most studies agree on the importance of governance activism, these two perspectives are important to keep in mind for policy implications.

Youth social entrepreneurship and entrepreneurial sustainability

Despite research gaps on youth social entrepreneurship, the practice of youth social entrepreneurship is currently increasing (Hodne, Liu, Lloyd, Lyon, Owen, Perales, Laouri Faulb, Hay, and Raman, 2019; Kruse 2019). Academic research mostly focuses on youth social entrepreneurship "in its infancy ... [however] the practice [of youth social entrepreneurship] has been well under way" (Kruse 2019, p.14). Youth today are launching social entrepreneurial initiatives with "ideas and passion to make incredible change in their local communities, in the country, and in the world" (Future Coalition, 2021, "What We Do"). In general, youth differ from adults with regard to their societal roles, power dynamics, propensity to engage in prosocial behaviours, outlook on life, and patterns of thinking (Blanchet-Cohen & Brunson 2014; Blankenstein et al. 2020). Youth tend to have powerful ideas and are able to act upon them with the aim to create positive change. Even though some behavioural tendencies of youth have been perceived more negatively, such as risk taking, challenging authority and status quo, youth may find and pursue innovative approaches to societal and environmental challenges and engage in social entrepreneurship (Lewis, 2016).

There is a research gap on social entrepreneurship activities in the Asia-Pacific region in general (Sengupta & Sahay, 2017), and innovation as a driver for the sustainability of social enterprises in reinvesting profits towards their social or environmental goal in specific. This reinvestment of profits is considered one of the most important features of a social enterprise. Europe DTI (2002, p.13) defines a social enterprise as a business "with primarily social objectives whose surpluses are principally reinvested for that purpose in the business or in the community, rather than being driven by the need to maximize profit for shareholders and owners". Bosma et al. (2016) point out, that only half of the social enterprises reinvest all of their profits towards their purpose. In addition, Guelich & Bosma (2019) found, that a concerning factor with social enterprises in Asia-Pacific is, that many of them tend to experience problems turning their nascent enterprises into operational businesses and making them sustainable. We therefore conclude that –if they are making profits and are able to reinvest towards their purpose- these social entrepreneurs are among those who can create entrepreneurial sustainability.

Innovation and new products and markets

An often overseen feature in entrepreneurship is the innovation-orientation of entrepreneurs, which is a necessary underlying feature for long-term success. Entrepreneurship and innovation are closely linked and positively related (Miller & Friesen, 1982) and the innovation process is an important factor for firm performance and economic growth (Yu & Si, 2012). Entrepreneurial innovation has transitioned from being considered a technology-driven process of the mid-twentieth century to an integrated process of the twenty-first century (Sengupta & Sahay, 2017). The capability to innovate relates to several research fields, strategy and organization, which link to classic managerial theories of the firm and its growth (Schumpeter, 1934). Drucker (1985) pointed out that an entrepreneur is always in search for any opportunity caused by change, to which he/she responds with innovation, thereby driving economic progress at macro and micro economic levels. All these theories introduce the importance of seeking innovative use for existing corporate resources to enable new ideas, processes and products.

Enterprises need to apply innovation to generate new business models through new or improved products, services, or processes which is crucial for their social advancement (Guelich & Bosma, 2019). From a different point of view, entrepreneurship is regarded from a value-creation perspective. Any entrepreneur can create value with more or less innovation - as an innovator or as a reproducer (Aldrich & Kenworthy, 1999), where innovators enter the market with significantly different approaches, practices and competencies than reproducers, who add little or no innovativeness to their existing markets. Bhide (2000) reports that 88 % of the world's entrepreneurs succeed because they excel at the exceptional execution of an ordinary idea, meaning that they will transfer something existing or reproductive and execute it exceptionally well. However, the remaining 12 % succeed by executing on an unusual or extraordinary idea, an innovation, which usually is generated by themselves. In this case, entirely new industries could evolve and these often disruptive new ideas create change and fuel economic growth (Yu & Si, 2012).

Entrepreneurs in developing countries who tend to be further away from the international technological frontier will therefore often be actively pursuing innovations that are new to their market or new to their firm. In this case, the innovation already exists in another market, but is now adopted by a given firm. Authors have mentioned innovations as technology-push and market-pull innovations (Geum et al, 2016; Horbach et al, 2012). Technology-push innovations originate from scientists or knowledgeable persons in the field of technical and business implications (Dosi, 1988; Workman, 1993), while market-pull innovations are either extensions or modifications of existing products, processes or ideas that have implications from the market and the industry (Dosi, 1988; Tushman & Anderson, 1986). This could encompass innovations that are led by industry-specific knowledge.

The innovation concept according to the Oxford Handbook of Innovation refers to putting inventions into practice (Fagerberg et al, 2005). A more narrow approach focuses specifically on innovation in products, services and / or processes or technological innovations as the result of knowledge-intensive technological entrepreneurship (Mas-Tur & Soriano, 2014). The broader approach refers to innovation as the development of new products and services or new processes, unique to a market or the world, as a key driver of business growth and job creation. The exploitation of new markets and the development of new ways to do business with a distinction ranges from incremental to disruptive innovations (Szirmai et al, 2011). Levie defines innovation confidence as “the degree to which individuals are willing to engage with and perceive benefit from new products or services, or products or services that embody new technology” *(*Levie, 2008, p.4*)*.

Some entrepreneurs risk to be innovative in order to generate business profits to create social value (Tan et al., 2005). These entrepreneurs, symbolizing a more altruistic version of entrepreneurship, have come to be known as social entrepreneurs. They are often community based, with a dual mission of meeting social or environmental as well as economic goals. Business decisions of a social entrepreneur depend on what drives him/her in the balance between market-orientation and societal needs (Massetti, 2008). In addition, social innovation targets problems in a different, more pointed way. By taking advantage of current needs, exploiting diverse available resources and building capacities, these social entrepreneurs address both the empowerment of underprivileged groups as a systemic change of the social, economic and institutional structures, which create these problems (Portales, 2019). Economists, change and thought leaders, forward-looking governments, industries and societies have increasingly articulated the need for entrepreneurial innovation to achieve high impact to progress economies. This entrepreneur would be driven by compassion (Miller et al., 2012) and would be risk tolerant, disciplined, innovative and skilled at recognizing opportunities and assembling resources to challenge existing social and economic structures for creating social value (Hill et al, 2010). Therefore, we hypothesize:

H1: Innovation in products and services positively increases the likelihood of social enterprises that re-invest in their social and environmental causes.

H2: Innovation in processes positively increases the likelihood of social enterprises that re-invest in their social and environmental causes.

The Asia-Pacific region

The Asia and the Pacific region consists of extremely diverse economies, including countries with the largest and smallest populations in the world, some of the wealthiest as well as some of the least developed countries (Litsareva, 2017). The region also remains home to two-thirds of the world's extreme poor living on less than US$1.90 a day, with widening income inequality in many countries in recent years (Litsareva, 2017). These growing disparities will have implications for achieving the United Nations 2030 Agenda for Sustainable Development, including efforts to promote social cohesion and the overarching pledge to "leave no one behind" (UNCDP, 2018, p.1). Under these circumstances, increasing social entrepreneurship rates in general, and entrepreneurship related to the Sustainable Development Goals in specific, is in the focus of many organizations.

With respect to innovation levels and in a global comparison, the Asia-Pacific region ranks behind North America and Europe and before Africa and Latin America & Caribbean (Bosma et al., 2016). 25.4 % of start-ups and young businesses in Asia-Pacific regard their products or services as new to all or some customers *and* perceive few or no competitors with the same product on offer (Guelich & Bosma, 2019). Many entrepreneurs in Asia and the Pacific pursue to reproduce products and services, also known as a "me too" approach in their entrepreneurial activities. However, the CPA Australia Asia-Pacific Small Business Survey (2016) shows that, regardless of market, small businesses with younger owners below 40 years of age are significantly more likely to be growing their enterprises, creating jobs if they focus on innovation, export, social media or training.

Educational level in Asia-Pacific

In the GEM study, the educational stages are subdivisions of formal learning, typically covering early childhood education, primary education, secondary education and tertiary (or higher) education. In order to be able to conduct cross-country comparisons, GEM utilizes the UNESCO (United Nations Educational, Scientific and Cultural Organization) classification, which recognizes seven levels of education in its International Standard Classification of Education system (ISCED). In Asia-Pacific, findings reveal, that the higher the educational level is, the higher entrepreneurial attitudes and activities are, regardless of age. Large country differences with respect to the educational levels prevail between attitudes, intentions and entrepreneurial activities (Guelich & Bosma, 2019).

The level of education may be a factor in explaining the number of social enterprises (Estrin, Mickiewitz &

Stephan, 2016), but differs substantially for social entrepreneurs across the globe (Bosma et al, 2016). The US and Australia report notably higher proportions of social entrepreneurs with a high level of education (62 %), while in MENA (Middle East and North Africa), Eastern and Western Europe around half of the social entrepreneurs are highly educated. Since Asia-Pacific comprises many under-developed regions and some of the lowest social entrepreneurship rates of the world, we hypothesize that

H3: The educational level positively increases the likelihood of social enterprises that re-invest in their social and environmental causes.

Research design and methodology

Data used in this study are from the GEM project, an ongoing large-scale research project, designed to collect data on entrepreneurial activities, aspirations and behaviour across countries. Each year, a random representative sample of the adult population (age 18 to 64) is surveyed in each country to identify individuals who, at the time of the survey, owned and managed a business or were in the process of starting one. (Bosma, 2013).

This empirical study utilizes GEM data from 2015, collected in the 10 countries Australia, China, India, Indonesia, Iran, Malaysia, Philippines, South Korea, Thailand and Vietnam. The total sample size of the adult populations in the 10 countries was 29,089 respondents, of which 1,712 were social entrepreneurs age 18 to 64, who -alone or with others- were currently trying to start or currently leading any kind of activity that has a social, environmental or community objective. Educational stages in GEM utilize the UNESCO classification from Level 0 (pre-primary education) through Level 6 (second stage of tertiary education). They are defined as follows: (1) Level 1 or lowest level of education: UNESCO stages 0, 1 or 2: pre-primary education, primary education or first stage of basic education, lower secondary or second stage of basic education; (2) Level 2 or medium level of education: UNESCO stages 3 or 4: (upper) secondary education, post-secondary non-tertiary education; and (3) Level 3 or high level of education: UNESCO stages 5 or 6: first stage of tertiary education, secondary stage of tertiary education.

Linear regression analysis is used to answer the questions: (1) if innovation in products and services and/or (2) innovation in processes are positive predictors for social enterprises that re-invest in their social and environmental causes, and (3) if the educational level positively increases the likelihood of social enterprises that re-invest in their social and environmental causes.

Dependent variable DV is “reinvesting profits for social and environmental goals” (SEPROFIT: “Profits will be reinvested to serve the social or environmental purpose of my organization”).

We control for SEMARKET (operating in the market by producing goods and services), AGE (age), gender, KNOWENT (do you know someone who started a business in the last 2 years?), OPPORT (do you see opportunities to start a business?), SUSKILL (do you perceive to have the right skills to start a business?), and GENDER (gender).

Results

A limited percentage of 5.9 % of the adult population in Asia-Pacific is involved in social entrepreneurship, be it as nascent or already operational entrepreneurs. The range for the broadest measure of social entrepreneurship is between 0.2 % of start-ups in Korea to 7.1 % in the Philippines. Social entrepreneurs in the operating phase range from 1.4 % in Vietnam to 11.1 % in Australia. Least active in social entrepreneurial activity are entrepreneurs in Vietnam, South Korea, Iran and Malaysia compared to the most active social entrepreneurs in Australia and the Philippines. Differences exist for commercial entrepreneurship where Malaysian enterprises are by far the least active (3 %) and entrepreneurs from Indonesia (17.7 %) and the Philippines (17.2 %) the most active. However, applying the narrow definition of social entrepreneurship, fewer entrepreneurs focus mainly on their social purpose in their start-up phase: from 0.2 % in South Korea to 3.5 % in the Philippines. Furthermore, operational entrepreneurs with a social purpose range from 0.3 % in Vietnam and Iran to 5.6 % in Australia.

For nearly every economy in the Asia-Pacific region, the social entrepreneurship activity rates are highest for entrepreneurs with tertiary education except India and Vietnam, where secondary education resulted in social start-ups. Social entrepreneurial activities for secondary and tertiary education levels are more prevalent for the older age group. No gender gap exists with respect to social start-up rates and level 3 education. Overall, male entrepreneurs show slightly higher levels of social activities with respect to education.

Table 1 shows the results of the linear regression analysis with the dependent variable "Profits will be reinvested to serve the social or environmental purpose of my organization". Overall significance is .000 with the three significant predictor variables in the model: offering products or services that are new to the market, offering a new way of producing a product or service, and education.

Table 1 Regression results for 'Reinvesting profits for social and environmental goals'

	Beta	**Sig.**
Offering products or services that are new to the market	.279	.000
Offering a new way of producing a product or service	.067	.322
Education	.180	.001
Age	-.029	.600
Operating in the market by producing goods and services	.151	.020
Entrepreneurial network	-.028	.620
Perceived opportunities	-.023	.691
Perceived skills and capabilities	-.007	.913
Gender	.077	.146

Offering products and services that are new to the market proves to be positively significant at .279/.000 and thus confirms hypothesis *H1: Innovation in products and services positively increases the likelihood of social enterprises that re-invest in their social and environmental causes.* However, innovation in processes is not significant and therefore *H2: Innovation in processes positively increases the likelihood of social enterprises that re-invest in their social and environmental causes* is not confirmed. Also confirmed is that the educational level (.180/.001) is important for a sustainable social enterprise to be able to reinvest profits towards their purpose, thus *H3: The educational level positively increases the likelihood of social enterprises that re-invest in their social and environmental causes* is confirmed.

Interestingly, it is also positively significant (.151/.020) that operating in the market by producing goods and services is another predictor for reinvestment of profits towards the entrepreneurial purpose. We conclude, that our construct in general positively points into a right direction, also because the amount of variance that is explained by the independent variables in R Square shows a strength of association with a level of 24.7 %.

Discussion

United Nation's strategy to support youth to turn their "ideas into action" acknowledges that youth are "a vast source of innovation, ideas, and solutions" who are providing vital change and leadership on the global climate crisis, social justice, and technology (United Nations 2018). This UN initiative acknowledges that young social entrepreneurs have great potential to lead positive change in the world today. As the objective of any social innovation is to address a problem more efficiently and effectively than done previously, our findings support Portales (2019), that it is important to promote social change integrally and holistically. However, we go beyond the environmental and societal change alone. The sustainability of the social enterprise itself can only contribute to generate new social, economic, institutional, and even cultural structures which then transform conditions or causes, if the entrepreneur is able to lead the businesses into an operational and finally established business phase. As the majority of youth-led social enterprises does not make it beyond the start-up phase (Guelich & Bosma, 2019), our research contributes to understanding how to realize the potential success of youth social entrepreneurs by identifying where support is needed to make them successful in the long term.

In Asia-Pacific specifically, clear relationships exist between introducing innovative products, services or processes and expected business growth, between innovation and future job creation, and between innovation and business growth (Guelich & Bosma, 2019). Entrepreneurs in general have higher innovation confidence than non-entrepreneurs (Levie, 2008). Entrepreneurial innovation is therefore a core driver of economic growth, business growth and job creation. Similarly, this is true for social enterprises who are active in the market with goods and services, which enables them to make money. Combining this with innovation in products and services and a certain educational level, will increase the likelihood that their social enterprises might be among those who can sustain to an operational phase. As a result, they will be among the 50 % of social enterprises (Guelich & Bosma, 2019), who reinvest their profits and achieve their social and environmental goals. Reinvestment of their profits implies that their businesses previously earned a profit, which directly relates to more sustainable business models. A wider knowledge about the drivers of sustainability could have tremendous impact on social enterprises' success, because the majority of social enterprises -youth and older entrepreneurs- struggle to sustain their businesses beyond the start-up phase. To increase impact on these social enterprises, organizations, governments, and educational institutions should work together to increase innovativeness in products and services and implement the right support programs for youth social entrepreneurs.

Conclusions

As the Asia-Pacific region includes some of the wealthiest as well as some of the least developed countries in the world, disparities are growing with implications for achieving the United Nations 2030 Agenda for Sustainable Development and the overarching pledge to "leave no one behind" (UNCDP, 2018, p.1). The region also hosts the largest generation of youth in history. Organizations, such as United Nations Development Programme (UNDP), target youth to enter entrepreneurship around the SDGs. Our findings support this concept of UNDP; however, we point out that youth social entrepreneurship needs to be nurtured in the long term, with sustainable business models and innovative products, services and processes. Governments not only need to rethink their existing education systems from primary to tertiary educational levels, but also how and with which programs they can enhance innovation in in youth entrepreneurs, enabling them to reinvest their profits towards their SDG purpose, thus becoming sustainable. Social entrepreneurship-targeted government funding is needed, that takes into account which challenges and limitations are prevalent in currently existing funding programs for social entrepreneurs with respect to innovativeness.

The results of the study are valuable for both academia and practitioners. The finding, that operating in the market by producing goods and services as a predictor for social entrepreneurs to reinvest their profits for their purpose, needs further exploration. Clearly, it is necessary to be in a market with products or services to make a profit and in series to be able to reinvest. However, a deeper investigation is needed to specify what exactly needs to be done in the market to strengthen this finding. Following the findings of Stephan et al (2015), that governments that are more active are able to reinforce social entrepreneurship, this calls for action for governments, governmental institutions as well as for private organizations. This could take place in areas such as access to funding, supportive funding options by government and the private sector, and raising awareness of the importance of the SDGs. As our results show that –in the Asia-Pacific region- tertiary level of education supports social entrepreneurship, these stakeholders specifically need to target the primary and secondary education level to increase the probability of social entrepreneurship. Topics should include not only innovation and creativity, but also entrepreneurship general education to result in a higher level of sustainable social enterprises. In practice of higher education, the findings suggest to incorporate training on innovation mind-set building, creation of alternative funding concepts and other supportive framework conditions and the use of the UN SDGs as an opportunity concept into the higher educational organization itself. This will challenge universities to change from their tradition of being a managerial hierarchical institution to becoming a more entrepreneurial educational institution.

Limitations of this study is the time of data collection in 2015, as the awareness for the importance for social enterprises increased in the last few years, accelerated in the Covid-19 pandemic, resulting in a higher number of social enterprises now compared to 2015. Data that are more recent might reveal different or more nuanced information on the interaction between innovativeness, education and social enterprises. In addition, the recent rapid technological changes during the Covid-19 pandemic could accelerate innovativeness in social enterprises, which might lead to new findings. This study comprises 10 countries in Asia-Pacific, and a generalization to overall Asia-Pacific might not be possible. Therefore, utilizing the findings of this study for comparisons of Asia-Pacific to other larger regions, such as e.g. Europe, might result in inaccurate results.

As the influence of education on innovative behaviour is documented, further studies could investigate the interplay between the level of education and innovation in products and services to find the reasons, what specifically triggers the purpose to reinvest profits. Overcoming the innovation obstacle for social enterprises can lead to a sustainable economic business development with higher profitability and more value-added goods and services. Gaining more insights in the different prevalent types of government support for social enterprises in the Asia-Pacific region and –if they support innovation or only the social and environmental impact- might lead to innovation-specific approaches towards their social or environmental goal. The interplay between youth social enterprises, universities, governments and organizations targeting youth initiatives could help to empower youth to a new level in the Asia-Pacific region.

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THAILAND 4.0: A NEW VALUE-BASED ECONOMY AND ITS IMPLICATION ON WELLNESS BUSINESS

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Abstract

The research aims to explain how COVID-19 has affected wellness business SMEs in Bangkok. It also uses political and management theories namely, developmental state theory, social capital theory, diffusion of innovation theory, resource-based theory, and image theory.

The research is qualitative research by nature as it uses snowball sampling and non-random sampling methods to gather the information through semi-structure in-depth interviews and focus groups. The main finding of this research is that, though the Thai government has set “Medical and Wellness Tourism” as the country’s development strategy to make Thailand a hub for medical and wellness tourism since 2002, the country has failed to manage COVID-19 crisis, and to provide appropriate risk management and suitable compensation to wellness business SMEs, both entrepreneurs and employees. As well, the government has high hope for the future of the wellness business as it believes that the sector, combined with medical and leisure tourism, will still be the engine of economic growth for Thailand while the business sector has not yet seen the bright future for wellness business in the post pandemic world.

The conclusion of the research is that the state ineffectively implements risk management measures makes the wellness SMEs in Bangkok suffer the effects of the COVID-19 pandemic. The research suggests that crisis communication and crisis management plan of the country shall be improved in order to better relieve like situations if ever occurs again. As well, the limitation of this research, apart from the pandemic itself, is that it is mainly conducted in Bangkok, especially in the city center. Therefore, the research suggests that other researchers who are interested in this topic conduct research in more thorough areas of the city and even nationwide to fill the knowledge gap.

Keywords: Crisis management; Public policy; Wellness business; SMEs

Introduction

COVID-19 and its effects on wellness business SMEs in Bangkok

Historically, Thailand developed the country's economy through its competitive advantage in rich natural resources and bio-diversity and devoted most its investment and attentiveness in the agriculture sector, which is the 1.0 economic development phase. Then the country entered the 2.0 and 3.0 phases, where the country received most revenue from light industries and heavy industries respectively. Yet, Thailand still faced 3 traps that hindered it from succeeding expected economic growth, namely middle-income trap; inequality trap and; imbalance trap. These traps merged with structural problems led to the country low effectiveness in economic development. Therefore, to frame economic improvement for 20 years (2017 – 2036 B.E.) onward, the government has come up with the idea of Thailand 4.0 economic development strategies that moves the focus into innovation-based development and to connect the country's economy to the universal level. (Ministry of Industry, 2016)

According to Health Systems Research Institute (HSRI), Thailand has faced challenges in numerous scopes that affect health systems. It proposes 11 dimensions of changes, namely consuming and living behaviors; urbanization; aging society; reasonable drug use; environmental change; market competition and investment; technological development; preventable diseases; higher spending on health-related activities; healthcare human resource management and; inequality in health system (Thailand Board of Investment, 2018).

As well, the Thai government has set "Medical and Wellness Tourism" as the country's development strategy to make Thailand a "hub" for medical and wellness tourism activities since 2002. (Thailand Board of Investment, 2018). With medical and wellness tourism as a "new s-curve" innovation is to ensure that Thailand's economy will continuously develops. That is, the country will profit from the new wave of innovation, while the first s-curve, or the heavy-industry based economy in the past, will eventually fade out. (Ministry of Industry, 2016)

The first s-curve is the industry that Thailand has capabilities to produce and it is a potential industry that had created tremendous economic value, but it lacked technological improvement and generate low growth rate. On the other hand, the new s-curve industry is a new industry that has intense use of technology and innovation. This is the industry that has great potential growth in the future. However, as it is a new industry that acquires low number of players, it requires that the relevant actors must support the industry in order to make it strong and highly competitive in the near future (Ministry of Industry, 2016).

One of the strategies is to reform the Thai industry sector into an innovation industry. To elaborate, the strategy is to transform from production-based activities to innovation and technological based activities by empowering the industry's competitiveness to level up production standard and to create new innovations with digital technology as a key tool. This is to build a network of "Innovation Driven Entrepreneurship" (IDE) who uses innovation and technology in their activities and to support the aggregation of industry cluster. This SPRING strategy is to level up standard, productivity, and innovation. Apart from that, to craft sustainable development, the country needs to support green growth industry and cultural and creative entrepreneurs to assure that they achieve 5 elements of development: productivity; standardize; innovation; green growth enterprise and; cultural and creative enterprise (Ministry of Industry, 2016).

Wellness business is seen as a new s-curve actor. To elaborate that, the Thailand 4.0 model puts the wellness business, as a new s-curve economic actor, development into following 4 phases.

1. For 1-2-year timeframe: the strategy is to strengthen new s-curve business/start-ups and to craft them into "New Economic Warrior"; to promote smart SMEs and; to develop SMEs Rescue Center and Cultural Industrial Village

2. For 2-5-year timeframe: the strategy is to accelerate start-ups; to increase the number of smart SMEs; to connect SMEs with Les and; to support industry networking

3. For 2-10-year timeframe: the strategy is to support the Thai entrepreneurs to be known internationally and; to connect the Thai entrepreneurs to the high-valued chains in the international market.

4. For 10-20-year timeframe: the strategy is to push the Thai entrepreneurs to transform themselves to be global leading enterprises (Ministry of Industry, 2016).

The COVID-19 Pandemic has caused great damages in many sectors, especially the business sector. The pandemic's impact on tourism and hotel industry is massive. The helms of global economy is affectedly paused by applying the brakes of the pandemic, and it has not stopped at any limit to any limits which hinders all the domains of the economic activities as well as commercial and managerial activities. The stances towards in preventing the pandemic, especially in hospitality industry is the essence of this study in which greater parts of the sector got a stark blow in functioning the suave way of perspective viewpoint of this sector. The outbreak of the first and second waves of COVID-19 have affected tourism industry in a higher and progressive manner (Kannan, 2020).

The COVID-19 symbolizes the definitive test for several leaders, entrepreneurs, and employees operating in most, if not, all industries. Among other waves, the contagion has brutally affected the world economy including the travel, tourism and hospitality industries. Besides, the first-time nature of the pandemic has had destroyed effects, with various restrictions on businesses. That leads to enormous stress on hotels, restaurants, bars, and other hospitality businesses, with overall serious and seemingly unbeatable challenges for the whole hospitality industry (Alonso, Kok, & Bressan, 2020).

The research aims to explain COVID-19 crisis management and resilience in wellness business sector in Thailand. The country has been dealing with the pandemic since late 2019 and the virus has spread in various time span, or waves through 2019 – 2021 where the government has Implemented many policies and measures to relieve the pandemic situation. The main problem, apart from the pandemic itself, is lack of cooperation in information sharing between responsible organizations as they sometimes compete against each other to get public recognition. That worsens both the pandemic control and people's trust in government. (Bangkok Post, 2021) Another problem is that the policies, such as closing various places and financial aid measures, that have been issued for relieving the situations are ineffective. That shows that policy makers and those affected from the pandemic and the policies are not in the same page and the business sector that is most affected is wellness business, namely massage parlors, spas, hair salon and gyms because they are the first to be closed and the last to be reopened. (Khaosod English, 2021)

The novel corona pandemic began in late December 2019 in Wuhan, Hubei province in China where clusters of pneumonia cases were reported to Wuhan Municipal Health Commission. (World Health Organization, 2020) Then, the virus has spread around the globe, including Thailand. The medical and wellness business is certainly affected from the pandemic. Nevertheless, with all the strategies laid out, they have not incorporated pandemic into the 20-year strategic plan. With COVID-19 breaking out in the country, Thailand has now faced huge challenges that it needs to overthrow. The government as well as relevant actors must redesign the strategies to cope with reality. Therefore, it is crucial to portray the support and policy implementation that the government and relevant actors provide for medical and wellness business, both during and after the COVID-19 pandemic phase. In other words, it is important to match the policy makers/practitioners and those who affected by such policies and measures to see the similarities and differences in their perspectives.

In the wellness market, the lines of goods offered are comprehensive ranging from preventive measures of health to the treatment of illness, for example. The preventive measure introduces a concept of healthy living while the treatment of illness merely produces the idea from health-related tourism. The common wellness ideas are spa, massage, body pampering, healthy gourmet meals, fitness classes, and alternative clinical treatment (such as aquatic therapy and acupuncture). Spa treatments, as the focus point of wellness amenity, can be delivered in different manners in terms of sources of water and its setting. As for the water sources, thermal mineral water from the ground have been used to treat diverse kinds of diseases since the invention of spa therapy over 1,000 years ago. Nonetheless, thanks to the cutting-edge technology, the dwellings without a natural thermal water source can also offer a healthy spa treatment. For instance, some herbal ingredients and mineral extracts can be mixed into hot water to help fully relax the body (Chen, 2007).

As well, customers can soak into the mineral water at a nature, rustic setting directly such as lake and river for spa settings. However, spa clients receive the treatment at modern amenities such as pools and bathtubs in which the sanitation issue can be prudently scrutinized (Chen, 2007).

It is reported that 35% of UK residents visit a spa in a year while 21% of Americans do so. The most popular type of spa in the UK is resort/hotel spa though, in the USA, day spas are more preponderant. With an exceptional growth, the wellness market has recently increased the attention by tourism stakeholders including government, business and hosting community. To elaborate, the Finnish Government has invigorated their war veterans to join a welfare program in which the veterans can get a subsidy from the government for healing their illnesses in some wellness amenities, such as a spa resort. Even for the veterans who live overseas, they could travel back to those amenities in Finland for 10 days in a year with a full subsidy of all the cost of travels and treatments. Moreover, Finland's Sickness Insurance Act has an emphasis on preventive treatment at local facilities, such as a spa center that helps encourage the wellness business. On the top that, in Switzerland, many spas incorporate a rehabilitation department in which the visitors can get treatments from certified nurses and doctors and, in some cases, the visitors can also enjoy five-star meals (Chen, 2007).

In the United States, the wellness destinations can accommodate the pregnants. It is reported diverse locations accumulation maternity services; in this case, even pregnant persons are able to safely enjoy spa treatment. The potential solutions are using hydraulic treatment tables and providing door-to-door services because the pregnants are least likely to travel during a certain stage of pregnancy. Some retreats have coped with the need of single-parents and take care of child care service while the clients are getting the treatments (Chen, 2007).

Looking at an even higher standard, Switzerland has founded even greater standards of wellness delivery for the rich and famous for decades. According to the new standards, wellness service's contribution to the quality of life is not only narrowed to the tourists, but also extends to the host community. A recent example of the integrated design of a treatment center in Lake Geneva has displayed the sensitivity of wellness provider to nature environment and local heritage. The treatment facility prudently matches with a quaint scene of a 19th century design attached to a modern medical center. It implies that the wellness sector may follow the essence of sustainable living. As the trend predominates, it can be intriguing to expect if the future development of wellness business will uphold better quality of life from the angles of the tourists as well as the host communities (Chen, 2007).

Wellness business is estimated around more than 10 billion Baht worth and Thailand is ranked the 16th best spa/massage in the world and the 5th in Asia. That makes Thailand both medical tourism for foreigners and health and beauty market for Thais. At Present, domestic spa and massage market is estimated at 35 billion Baht with 8% growth rate with continuing leap growth in the tourism segment as there is still high demand for therapy and relaxation in the market. Spa/massage market takes 23% of overall beauty market while medical service market is estimate as high as 100 thousand million Baht, which is 75% of the market (Marketeer, 2021).

The medical and wellness business surely benefits from these public policies. Nevertheless, with all the strategies laid out, they have not incorporated pandemic into the 20-year strategic plan. With COVID-19 breaking out in the country, Thailand has now faced huge challenges that it needs to overthrow. The government as well as relevant actors must redesign the strategies to cope with reality. Therefore, this research suggests that the study of the medical and wellness business support from the government and relevant actors, both during and after the COVID-19 pandemic phase, should be further scrutinized to make the story of Thailand 4.0, value-based economy, model entirely complete.

As the title of this paper is “COVID-19 and Its Effects on Wellness Business SMEs in Bangkok”, I have used following theories to frame the research:

Social network theory

Social network theory assumes that people tend to think and behave similarly because they are connected. That is, the theory scrutinizes collections of ties and linkages among a defined group of actors (individuals, groups, or organizations). Moreover, the connection as a whole can be used to interpret the social behavior of the actors involved. The actors can also be connected, or divided through the use of the network. The theory also makes analysis of a range of organizational phenomena at both the micro level (leadership, teams, power, trust, turnover, etc.) and the macro level (interfirm relations, alliances, network governance, etc.) (Miles, 2012).

The theory should be applied into the research proposal in order to explain how wellness businesses as a group utilize their connections to manipulate (if there is any proof) the policy related to wellness business issues in Thailand. As well, the theory helps describe how organizational phenomena at both macro and micro levels should be put into analysis.

Social capital theory

Social capital theory’s main point is that people receive both tangible and intangible resources at the individual, group, and organizational levels through social interactions and connections. A key focus in the theory is that social capital resources are embedded within, available through, and derived from social networks of interconnected people, groups, or nations. That is why, according to this theory, to build strong families and local communities is crucial. The term “social capital” is described as “goodwill, fellowship, mutual sympathy and social intercourse among a group of individuals and families who make up a social unit, the rural community” (Miles, 2012).

Also, the social capital is different from other kinds of capitals because it is based on position or location of the member within the member’s network of social l relations. Adler and Kwon have described 3 dimensions of social structure which are 1) marker relations which refer to the monetary or bartering exchange of goods and services; 2) hierarchical relations which refers to the exchange of material and security for obedience to authority; and 3) social relations which refer to tacit, symmetrical, ongoing mutual exchanges of gifts and favors (Miles, 2012).

The theory should be applied to the research in a way to explain how people, both in wellness business and policy makers, use their social capital or, in other words, “trust” to facilitate the crafting of policies and measures related to wellness business.

Diffusion of innovations theory

Diffusion of innovation theory examines the process through which information is communicated to people or organizations over time that can lead to the use of an innovation. An innovation can be a good, service, practice, or idea that people perceived to be new. The newness does not depend so much on the creation date of the item, but refers more to the newness of the application for helping address a need or for solving some sort of problem. Newness also refers to people having a positive reaction to using the item themselves; they may have known about the item before, but may have never thought about using it themselves (Miles, 2012).

The arc of innovations can be explained by its adoption rate. Innovations tend to be adopted more quickly when they 1) have a relative advantage over existing methods; 2) are compatible with existing value, past experience, and current needs; 3) are simple to understand; 4) can be tried out or played with by potential adopters; and 5) are observable, in the manner that the adopters can see the results for themselves (Miles, 2012).

Apart from that, the word "diffusion" means that it is a process though which an innovation is communicated, or shared, through communication channels over time to people in a social system. According to this theory, innovations are diffused through organizations in 5 stages: 1) agenda setting; 2) matching; 3) redefining or restructuring; 4) clarifying; and 5) routinizing. At each stage, there are specific events, actions, and decisions that occur, and later stage cannot take place until the previous stages have been completed (Miles, 2012).

The research uses this theory to rationalize how wellness businesses and policy makers follow these 5 stages of innovation diffusion. The stage that the researcher is most intrigued by is the first step "agenda setting" as the researcher believes that to tune the military-run government to look into wellness-business related policies is not easy. Therefore, the researcher would like to acquire more knowledge on how these agenda are put into the agenda and crafted into policies and measures.

Resource-based theory

Resource-based theory observes performance differences of organizations based on their resources. It makes 2 main assumptions: 1) Organizations within an industry may differ in their resources, and 2) these resources may not be perfectly mobile across organizations, so organizational differences in resources can be permanent. The theory also explains how organizations maintain unique and sustainable positions in competitive environments because it highlights efficiency-based differences. Therefore, the organizations' market power, collusion, strategic behaviors can be various (Miles, 2012).

The main idea of this theory is that the organizations in the same industry compete against each other on the basis of their resources and capabilities. The theory also concludes that organizational decisions to select and accumulate resources are economically rational and subject to limited information, biases and prejudices, and causal opacity/ambiguity. The causal ambiguity means it is not known exactly how a resource leads to outstanding performance for a certain organization (Miles, 2012).

The theory will be used in the thesis as one of the theories clarifying the wellness/health-related organizations' use of their resources. That is, organizations in the same industry may not have same resources and are subject to limited information regarding wellness-related policies they have acquired. Therefore, the researcher assumes that the organizations, though in the same industry, have (somewhat) different access to the resources and different and limited information regarding the policies. As a result, the wellness-related policies may differently affect/benefit the organizations.

Image theory

Image theory believes that an individual who decides in the context of a relationship or organization with a presumption that the decision may remain or may later be changed. The theory is an alternative to traditional decision-making theory because it is a psychological theory of decision making (Miles, 2012).

Apart from that, image theory sees decisions as being made intuitively and automatically while traditional decision-making theory believes that the decisions are being made deliberately and systematically. Hence, to image theory, decision makers often make decisions using simple, easy, nonanalytic, and rapid processes for each decision, even when the decision has considerable significance to the decision makers (Miles, 2012).

Moreover, the image theory has 3 types of image: value image; trajectory image; and strategic image. The value image is the decision makers' principles (morals, ethics, values, ideals, standards of equality, justice, loyalty, goodness, etc.), combined with their moral, civic, and religious beliefs. The value image portrays the "self-evident truths" for which the decision makers believe. Therefore, it helps the decision makers foresee which goals are worthy for them to pursuit and which is not (Miles, 2012).

The trajectory image projects the future state that the decision makers desire to achieve; or the agenda that the decision makers follow. The last image is the strategic image that includes plans, strategies, and tactics that have been adopted in order to achieve the trajectory image (Miles, 2012).

This research will clarify all the three types of image, namely the value image; the trajectory image; and the strategic image, that the decision makers, both in the side of policy-making processes and wellness-related organizations, acquire. As well, the research assumes that the decision makers make decision regarding wellness policies using simple, easy, nonanalytic, and rapid processes, rather than making decisions deliberately and systematically.

COVID-19 and its effects on wellness SMEs in Bangkok

Looking to the case of COVID-19 pandemic and how it quickly and fatally widespread throughout the country, business sector, especially tourism and wellness industry are heavily affected. The scope of this research focuses on wellness SMEs in Bangkok, to be precise, wellness and spa business in Bangkok. To elaborate that, Bangkok Metropolitan Administration has issued several announcements that require wellness and spa salons to close during certain period of time where each time the businesses are closed for weeks and months (Bangkok Metropolitan Administration, 2020). The researchers have interviews 25 key informants: wellness and spa entrepreneurs; wellness and spa employees; BMA officials; and Ministry of Health officials. The main finding is that the state ineffectively implements risk management measures makes the wellness SMEs in Bangkok suffer the effects of the COVID-19.

Therefore, this thesis will be conducted by using both documentary and field research. It examines written documents and carries out participatory field research. Regarding documentary research, the thesis thoroughly examines both published and unpublished documents in relation to the wellness-related policies during 2014 - 2021. As no research has systematically studied the wellness-related policies in the new political environment produced by the reform agenda and the military administration under General Prayut Chan-o-cha, the study aims to fill the gap by concentrating on the policies after the 2014 coup d'état and consequent introduction of the political reform agenda.

The empirical content is mainly based on field research in Bangkok, Thailand. The research will be conducted using qualitative methods with a variety of qualitative techniques. The mechanisms of inquiry include semi-structured in-depth interview, participant and non-participant observation, and the recording of oral histories. The research uses a triangulation approach which utilizes more than one research technique to study the same incidents in order to validate information as well as to cross-check different sources and clarify conflicting information.

To obtain in-depth information and record the undocumented stories of the wellness-related policies and actors, an ethnographic approach will be used. This method is used because it allows the actors (both in policy making side and wellness-related organization side) to fully express themselves, reveal the experiences of their struggles and describe their everyday practices and the way they see the world. Semi-structured in-depth interviews and focus group discussions will also be used to acquire information and opinions of members of wellness-related organizations, such as spas, wellness centres, hospitals, etc., as well as that of policy makers.

Data analysis of existing information, such as news clippings, and unpublished documents of the government and official organisations will also be used to provide supplementary information to substantiate and fill any gaps in the findings. The supplementary information includes internal documents and minutes of meetings of the government and ministry of health, unpublished documents and first-hand information gathered from the special committees dealing with the wellness-related organizations. During the fieldwork, the researcher expects that the idea of deliberative participation in that it intends to involve those who are the subject of the research in the process of researching and finding answers.

The table below describes the characteristics of the selected samples that are interviewed and studies in this research.

Table 1 Sample Table

Type of Organization	Number	Active Administration Years
National Government Level	3	2 – 7 years
Ministry Level	5	7 years
Local Government Level	2	7 – 35 years
Association	3	5 – 10 years
Business	6	5 – 23 years
Wellness-business Employee	3	3 – 15 years
Landlord	3	7 – 41 years

To elaborate, the researcher interviews 25 interviewees that can be categorized into 2 groups: governmental staff and wellness business related informants.

1. Governmental staff

The researcher interviews 10 governmental staff which are General Prawit Wongsuwan, Deputy Prime Minister, Anutin Chanvirakul, Deputy Prime Minister and Minister of Health and other 2 ministry of health's officials; Doctor Thaweesin Visnuyothin, CSSA spokesperson; Arkhom Termpitthayapaisith, Minister of Finance; Phipat Ratchakitprakarn, Minister of Tourism and Sports; Kachit Chatchavanich, Permanent Secretary of Bangkok Metropolitan Administration and Police Captain Pongsakorn Kwanmuang, spokesperson for Bangkok Metropolitan Administration; and Suporn Attawong, an assistant to the prime minister's office.

Table 2 Governmental informants

Organization Type	Title	Name	Experience
National Government	Deputy Prime Minister	Gen. Prawit Wongsuwan	7 years (for current administration)
National Government	CSSA Spokesperson	Dr.Thaweesin Visnuyothin	2 years
National Government	assistant to the prime minister's office	Suporn Attawong	7 years
Ministry Level	Minister of Health	Anutin Chanvirakul	4 years
Ministry Level	Advisor to Deputy Minister of Health	Thanitpol Jayananda	4 years
Ministry Level	Department of Health Service Support Officer	Ubol	20 years
Ministry Level	Minister of Finance	Arkhom Termpitthayapaisith	2 year
Ministry Level	Minister of Tourism and Sports	Phipat Ratchakitprakarn	2 years
Local Government Level	Permanent Secretary of BMA	Kachit Chatchavanich	3 months (in this position, but working in the BMA for 35 years)
Local Government Level	Spokesperson for BMA	Pongsakorn Kwanmuang	5 years

2. Wellness business related informants:

The researcher interviews 15 wellness business related informants which are 4 wellness and spa entrepreneurs; 3 wellness business association representatives; 3 beauty assistants; 1 medical wellness doctor; 3 landlords; and a Chief Executive Officer of an insurance company.

Table 3 Wellness-related informants

Business Type	Title	Name	Experience
Spa	Manager of Gaya Health and Beauty Spa	Vilai	23 years
Spa	Owner of Health Land Spa	Pitak Lapprathana	22 years
Spa	Owner of Blink Spa	Poom	20 years
Spa	Manager of Away spa	Bee	3 years
Wellness Clinic	Director of Smith Prive Aesthetic Clinic	Smith Arayaskul	18 years
Association	Director of federation of Thai spa and wellness association	Chavanat Sinthukiow	18 years
Association	Director of Charawi Association for the Conservation of Thai Massage	Pitak Yotha	3 years
Association	Member of Charawi Association for the Conservation of Thai Massage	Monlapas Thaichareon	13 years
Counter Brand	Sisley Brand’s Beauty Assistant	Wan	23 years
Counter Brand	Sisley Brand’s Therapist	Noon	19 years
Counter Brand	Christian Dior Brand’s Beauty Assistant	Will	8 years
Landlord	President of The 1 Central Limited	Ton Chirathiwat	18 years
Landlord	Managing director of the marketing department of CPN	Natthakit Tangpoolsinthana	35 years
Landlord	A landlord of a spa located on Sathorn Road	Tee	7 years
Insurance Company	CEO of AIA Thailand	Krit Chantanotoke	4 years

The researcher practices “snowball sampling” and a “non-random sampling” methods in this study as the nature of the data sources and frequent difficulty in getting subjects to volunteer information. Graduate students attempting to contact with high-rank officials and governmental agencies are often refused. Therefore, the high-rank officials and governmental officers who are willing to volunteer information are used as samples. The criteria include: working in the relevant governmental agencies; having at least 2-year experience in the office (given that the COVID-19 has hit the country 2 years ago). For the wellness business related informants, the criteria include: owning a business for at least 10 years; or working in the field of wellness business for at least 3 years: the business’ products or services are available in domestic and/or in global markets; and the brand is well-recognized domestically and/or internationally.

For the governmental informants, the researcher uses person-to-person in-depth interviews with each informant to gain knowledge on how the governmental organizations at various levels plan and tackle the COVID-19 pandemic

For the wellness-business related informants, the research uses the qualitative method which the researcher has conducted semi-structure in-depth interviews and focus groups with the mentioned informants to acquire deep knowledge and understanding of wellness business and how the COVID-19 has affected the business. As well, the researcher aims to see if the relevant governmental organizations have issues suitable policies and measures to relieve the hardship caused by the pandemic.

There are 3 main topics that have surfaced during the interviews, namely crisis management; compensation; and the future of the wellness business. The arguments are as followings:

3. Crisis management

It is crystal clear from the interviews that both wellness-related informants and governmental informants are on the same page that there are still room for improvement for COVID-19 crisis management. For example, miscommunications of the CSSA and BMA can be managed by better cooperation between the 2 parties. That will prevent misunderstandings for the public. However, the governmental informants express that this is the best they can do for the given circumstances and they hope that the situations will get better once the pandemic is over because they impose new-and-stricter health standard for the wellness business to act upon.

Therefore, the wellness-business related informants feel that while the government has not managed the crisis well, it also pushes all the burden for the public to absorb. For example, the wellness business needs to practice new health standard and cover all the expense by itself because the government does not give hand in providing needed resources, such as ATK test kits, masks, etc.

4. Compensation

The compensation topic is also crystal clear for both groups of informants that there is insufficient compensation for wellness business affected by the COVID-19 pandemic. That is, the 5,000 Baht compensation for the registered therapists/masseurs is much lower than the high living expense they have nationwide. As well, there are plenty of unregistered therapists/masseurs who have received no compensation at all. Not to mention that the wellness business owners also have not received whatsoever compensation for the loss due to the pandemic though they are those who fall the hardest in this crisis.

Nonetheless, the governmental informants believe that the situations will get better as all relevant organizations are working together to come up with better compensation schemes for the wellness business as well as other affected businesses.

5. The future of wellness business

From the interview with wellness business-related informants, there are mixed information regarding the future of wellness business. To elaborate, for the business entrepreneurs, there are those who believe that there is still hope for wellness business in the post-pandemic world, and there are also those who are afraid of continuing in the wellness business market because they have lost big amount of money during the pandemic and they think that the wellness business is too risky and unpredictable.

As well, for the landlords' points of view, there are landlords who understands that the pandemic has damaged the economy as a whole and they are willing to help those entrepreneurs to pass the hard time in order to let them prepare to be able to continue their business again in the post-pandemic world. On the other hand, there are also landlords who believe that wellness business is not attractive tenant because it is a close-contact activities business which will be affected again if the similar pandemic occurs. Therefore, it is too dodgy for them to let the wellness business rent their properties. However, it should be remarked here that the landlords who are more adaptive, like CPN, will better cope both during the pandemic and in the post-pandemic time.

For the governmental informants, they strongly believe that the wellness business will pick up their paces in the post-pandemic world and the customers will be even more confident when they revisit the wellness shops because they realize that the shops are practicing even more stricter health standard than before. Also, as medical tourism and wellness business are one of engine of economic growth for Thailand, the government will find more measures to help boost and prepare the wellness business for the coming new normal world.

Table 4 Results of differences and similarities from governmental and wellness-related informants

Results	Governmental informants	Wellness-related informants
Similarity	• More room to improve in crisis management • Communication is key	• More room for improvement in both crisis management and communication
Different	• Think they are doing their best • Relief measures meet targeted groups' need • Wellness business will pick up paces	• Relieving measures are insufficient • Wellness business is risky

Discussion

First, social network theory is applied into the research in order to explain how wellness businesses as a group utilize their connections to manipulate the policy related to wellness business issues in Thailand. As well, the theory helps describe how organizational phenomena at both macro and micro levels should be put into analysis. In the interviews, the researcher learns that wellness business entrepreneurs and registered therapists have gathered as an association to negotiate policies and measures that affect them. As well, they have pushed the authority to get the policies accordingly to their preference and have received many successful milestones, such as vaccine quotas and SHA+ certification.

Second, social capital theory is applied to the research in a way to explain how people, both in wellness business and policy makers, use their social capital or, in other words, “trust” to facilitate the crafting of policies and measures related to wellness business. To elaborate, all of the authority, in this term, is defined as the Thai government (mainly Ministry of Health and Ministry of Tourism and Sports), the Tourism Authority of Thailand, the Bangkok Metropolitan Administration, need to closely work hand in hand in order to make the new normal lifestyle work. As well, the wellness business entrepreneurs and therapists need to trust both each other and the authority to cope with the COVID-19 pandemic situations as well as to assure that the business will be able to get through this harsh time and be able to get through the state of resilience and thrive again after the crisis have passed.

Third, resource-based theory assumes that organizations in the same industry may not have same resources and are subject to limited information regarding wellness-related policies they have acquired. After conducting the research, the researcher believes that the organizations have different accesses to the resources and different and limited information regarding the policies. As a result, the wellness-related policies differently affect the organizations. To clarify, the federation of Thai spa and wellness association is able to negotiate policies that affect their members’ conditions because they are united for communicating with authority to achieve what they think best for their members while other wellness businesses that are not the part of the association are left alone trying hard to survive during the crisis.

Last, neo-authoritarian developmental State theory play vital roles in this research as the state is micro-managing the COVID-19 crisis at every level and that leads to miscommunication and misunderstanding both among the authorities and for the public. That is because the state still fails in tackling the problems and recovering the affected parties, especially wellness business SMEs who are first to crash and last to bounce.

From the interviews, it occurs that the policymakers still do not fully understand the nature of wellness business which is close-contact activity. That leads to mismatch policy making that fails to solve the actual problems and propose suitable recovery scheme for such business. Also, the researcher believe that it is important for those who would like to study this topic that main source of income of wellness business SMEs in Bangkok is from foreign tourists, especially Chinese. Therefore, the business has certainly crashed once the government decided to prohibit inbound tourism.

In this research, it is proven that, in order to sustainably survive, the wellness business SMEs must be more versatile, both in term of providing service and building products under their own brands, whether they are skin cares, herbal balm, or food. All in all, wellness business is still the answer in the long run because there are still customers' need to take care of themselves. However, the business needs to adapt to be more universal and to position themselves beyond providing service and other close-contact activities.

As well, to compare this research with relevant studies, the researcher finds that there are gaps that this research has come to fulfill. That is, in this research, various management theories have been put into test if they are applicable and, more importantly, still relevant to the real world. The researcher finds that the relevant studies that have been done before this research have not well proposed the crisis management and crisis relieve plans for wellness business, especially in the Thailand's context. To elaborate, the crisis management plans in the past have been crafted for any businesses, not particularly wellness-related business. Though the researcher is able to find one crisis management scheme that is purposely for the wellness-related businesses, there are still many intervening factors that have surfaced in the research. Therefore, there is no "one-size-fits-all" crisis management plan for every wellness-related business. Everyone must learn from their experience and work from that.

Apart from that, since the researcher has interviewed several key informants who are either engineers in policy making process, or wellness-related practitioners, it is certain that this research has proposed a holistic point of view of the COVID-19 crisis management of wellness business in term of how the policy makers have responded to the crisis and how the entrepreneurs and relevant parts have adapted during the crisis.

Finally, it is essentially intriguing to explore how those key informants reflect on the crisis management plan of the governments as well as their own crisis management plans, and to look forward for their expected post-pandemic world's projection.

Limitation and further study

The main limitation of this research is the COVID-19 pandemic itself because it has prevented the researcher to have face-to-face conversations with many key informants and the researcher believes that to have face-to-face and in-depth interviews in flesh is much juicier and exciting than to hold those via internet applications and phone calls. Also, there might still be some information that the informants have to omit because they might fear that it could leak to unwanted groups.

Apart from that, as the research is mainly conducted in Bangkok and the city center part of the province, the information and the results explained in this research may not comprehensively display that of other provinces and the whole country.

For the further study, the researcher highly recommends those who are interested in doing research on this topic to dive deeper in many aspects of wellness business as many kinds of them are different and, therefore, there are still more interesting knowledge lie beneath what is presented in this research. Also, to expand the information horizon from merely Bangkok and city center to other provinces in the country as well as the country as a whole will definitely give the more complete picture to the research on wellness business and crisis management policy in Thailand. As well, it will be interesting to evaluate how the crisis has affected the wellness business in the long run, and to learn from the wellness-related businesses who have survived this pandemic to see what they have done to make it.

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FACTORS AFFECTING THE RESIDENTIAL REAL ESTATE PRICES IN CHINA

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Abstract

From the end of the last century to now, China's real estate developed rapidly and became a pillar industry of the national economy. However, at the same time the booming of real estate development has caused the housing prices in China to continuously rise. High prices bring a series of social problems. Therefore, it is very necessary to analyze the real estate prices in china and explore the influencing factors of prices from the root. This study will provide the evidence for real estate companies and control policies from theoretical and practical standpoints.

According to these standpoints, this paper chooses seven factors, namely: gross domestic product; customer price index; monetary supply; exchange rate; interest rate; urban per capita disposable income and land price to study the relationship between residential real estate price and the above based on quarterly data from 2005 to 2016. This paper uses multiple linear regression to analyze influencing factors on property prices. According to the results; gross domestic product negatively affects the housing in some regions, interest rates and exchange rates show the positive and negative effects in different areas, monetary supply positively affects prices in each region. Consumer price index, urban per capita disposable income and land price negatively influence prices in some areas. Lastly, base on the results of this research this paper gives some suggestions to companies and organizations.

Keywords: Residential Real Estate Prices, Eight Economic Regions, Factors

Introduction

From the beginning to now, China's real estate development experienced four stages: theory breakthrough and experimentation (1978-1991), irrational speculation and readjustment (1992-1995), relative stability and development (1995-2002), housing prices increased sharply and Macro-control (2002-now). In 1998, the State Council issued the abolishment of the welfare housing system and realization of monetization. It marked that Chinese real estate had entered a new stage of development. In recent years the housing prices and residential real estate investments have soared. Along with rapid economic growth and a great deal of investment, the domestic estate is going higher. Worldwide, the property prices of most cities are overvalued and some are on the verge of a real estate bubble. According to the statistics of the International Monetary Foundation (IMF), Chinese real estate investment accounts for Gross Domestic Product (GDP) from 7.39% to 14.18% from 2003 to 2015. In the last century, this proportion was only 8.7% at the height of the Japanese real estate bubble. The highest number was 6.5% during the American secondary mortgage crisis. High prices are daunting, and that has become a hot issue for society and the government in recent years. The State and local government have put forward a series of policies regarding real estate control, including home purchase restrictions, the launch of property tax and increased mortgage rates, but the effect was not obvious. However, the housing prices directly affect the revenue of real estate companies. Therefore, it is necessary and important to analysis the factors of the real estate price and explore the root causes of housing price increases. Based on the 11th Five-Year Plan, China is divided into eight economic regions: North-East China: Heilongjiang, Jilin, Liaoning; Northern Coast Area: Beijing, Tianjin, Hebei, Shandong; Middle Reaches of the Yellow River Area: Henan, Shanxi, Shanxi, Inner Mongolia; South-West China: Sichuan, Chongqing, Guizhou, Guangxi, Yunnan; Middle Reaches of the Yangtze River Area : Hunan, Hubei, Jiangxi, Anhui; Southern Coastal Area: Guangdong, Hainan, Fujian; Eastern Coastal Area: Shanghai, Zhejiang, Jiangsu; North-West China: Ningxia, Gansu, Qinghai, Xinjiang, Xizang. This paper studies and comparatively analyzes the factors affecting residential real estate prices in above eight areas.

Research of objectives

This paper researches the relationship between the influencing factors on residential real estate prices in each of the eight regions. Influencing factors include: GDP, interest rate (Five-year benchmark lending rate), monetary supply(M2), consumer price index (CPI), the exchange rate(¥/$), urban per capita disposable income and land price.

Hypotheses

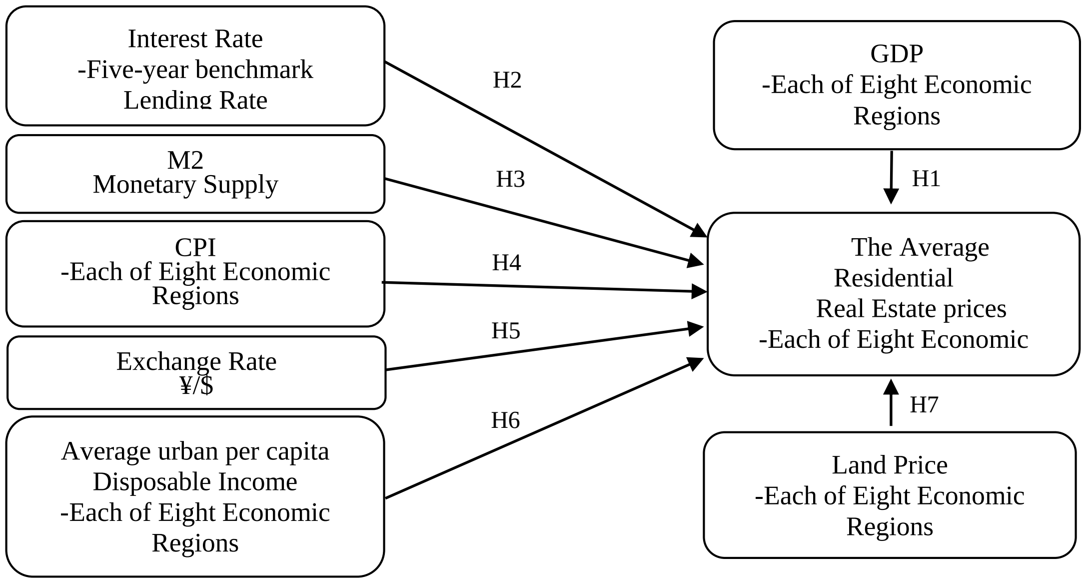

Figure 1 Research framework

Note: In this research, the residential real estate prices and affecting factors are compared and analyzed in eight different regions.

H1: The GDP affects residential real estate price in each of eight regions of China

H2: The interest rate (five-year benchmark lending rate) affects residential real estate prices in each of eight regions of China.

H3: The M2 affects residential real estate prices in each of eight regions of China

H4: The CPI affects residential real estate prices in each of eight regions of China.

H5: The exchange rate affects residential real estate prices in each of eight regions of China.

H6: The urban per capita disposable income affects residential real estate prices in each of eight regions of China.

H7: The land price affects residential real estate prices in each of eight regions of China.

Benefits of the research

Based on this paper, the relationship between the residential real estate prices and affecting factors would be estimated by empirical research results. There are four dimensions to elaborate the expected benefits of this research. This paper lists and detailed analyzes some impact factors of the real. So the real estate companies understand the price formation mechanisms and make an appropriate decision can base on the results of this paper. They can adjust the strategy of companies and investment direction according to this study timely when the conditions change. Thus the companies can control the business risk, protect the loss of the assets and expend the profits. The results of this study can provide the evidences and policy reference of real estate regulation for government. Finding the trend of the real estate price is helpful for the consumers in regards to making appropriate decisions on purchasing houses. The results of this paper also are expected to make a contribution to the future academic research related to the real estate market.

Literature review

Li&Wang (2011) used Kalman filtering to study the factors affecting changes in real estate prices. They found there was a positive relationship between GDP and price. Li and Hu (2011) studied the fluctuation between China's real estate prices and macroeconomic based on PVAR model. The finding of this research is that GDP and housing prices are interrelated through cause and effect. M Belej and R Cellmer (2014) studied the macro-economic factors: GDP, inflation rate, unemployment rate and interest rate, all of which influence the real estate prices in Europe. There is a very strong positive correlation between prices and GDP.

Harris (1989) Proposed that nominal interest rates are a major variable that negatively affect housing prices, this was deduced through the use of the econometric analysis method. Zheng and Guo (2011) studied the reason behind high housing prices based on credit channel. The results show that the interest rate increase lead to the real estate price rise. Englund and Ioannides (1997) researched the property prices of fifteen members of Organization for Economic Cooperation and Development. They found the interest rates and prices have a negative relationship. Liang, Gao and He (2006) empirically analyzed the real estate industry and the national economy in China using quarterly data between 1995-2005. The results were that interest rates and housing price were negatively correlated.

William (2002) found that money supply positively impacted on the housing market through establishing vector auto regression (VAR) models based on monthly data. Gao (2008) studied the transmission mechanism of Chinese monetary policy on real estate prices based on VAR model. The result of this paper is that money supply increase caused the real estate investment and sales increase, which finally resulted in the rise of real estate prices. Elbourne (2008) empirically analyzed the impact of money supply on housing prices. He found that money supply changes have a positive impact on housing prices. Huang and Wang (2010) adopted empirical analysis and used the SVAR model to study the effect of monetary supply on housing prices based on data in 2005-2009. They found that monetary supply increased which causes real estate prices to increase sharply. Xu (2011) adopted econometric analysis which includes Co-integration, the error correction model and the Grainger causality test for impulse response to research the transmission effect of money supply M2 and loan interest rate impact on real estate prices. The results show that there is a long-term stable relationship among these three, and that money supply (M2) influences housing prices positively.

Yu (2012) made the Grainger causality test of CPI and housing sales price index based on the data from January 2006 to December 2010. He found that the housing sales price index change would cause CPI changes, and that the changes of CPI did not cause price index changes, there is a one-way causal relationship between them. Pang and Mao (2013) conducted research about correlation between Chinese housing prices and CPI by utilizing the error correction model. They think there is a long-term equilibrium relationship between these two variables, and they are interdependent. Yuan (2012) analyzed the impact of CPI on real estate prices. The result is that CPI's influence on housing price is significant. Xu and Zhang (2012) pointed out that China's housing prices and Inflation is different from other countries and high CPI caused a negative interest rate which drives the residents to buy assets in order to reduce losses. This reason causes demand that prompts high real estate prices. The research result from Zhang (2013) stated that inflation did not have significant influence on Chinese housing price in recent years.

Earl Benson, Julia Hansen, Arthur Schwartz, and Greg Smersh (1999) studied the factors affecting housing price in Bellingham, Washington. The conclusion is that a rise of Canadian/U.S. exchange rate results in an increase of real estate prices. Han and Wang (2011) researched the fluctuations on real estate prices, money supply, fluctuations of exchange rate and interest rate using the VAR model. The result is exchange rates negatively impact on housing prices. Wang (2009) analyzed the relationship between RMB exchange rate and real estate price after the reform of exchange rates based on the co-integration test, Granger causality test and impulse response. The empirical results show that there is a negative relationship between the nominal exchange rate and real estate price. Chen and Liu (2009) analyzed the mechanism of exchange rate impact on housing prices, based on data during July, 2005 to December, 2007 through establishing VAR model. The result showed that the real effective exchange rate of RMB positively impacts on real estate prices.

Abraham and Hendershott (1996) built the price model to empirically research the influencing factors on housing prices and found that the rise of housing prices is largely due to the residents' increasing income. Tu and Zhang (2005) empirical analyzed the Shanghai property prices based on data from July 2000 to March 2004. The finding of this article shows that per-capita disposable is an important factor which drives the real estate prices to rise. David (2005) constructed the VEC model to research the relationship between commodity house price, household disposable income, and mortgage rates. He found income increases lead to price increases, and mortgage rate increases lead to price decreases. Égert,and Mihaljek (2007) found that there is a positive relationship between per capita income and real estate prices in central Europe and Eastern Europe.

Edward, Joseph and Hilber (2002) selected: land price, housing price, regional economic development and human capital as variables to do regression analysis. The results show that there is no direct relationship between land price and housing price. Cao (2000) studied the commercial housing prices in Guangzhou, and then he found land prices positively impact on prices. Kuang (2005) explored the relationship between land price and housing price. The finding is that they are negatively correlated when supply exceeds demand, and they are positively correlated if supply is smaller than demand.

Methodology

Data collection

Due to the fact that the value of sales revenue and sales areas are cumulated monthly this study uses the sales revenues of the next three months minus the sales of the last three months to get the sales for the quarter. Then the gross sales of residential real estate and total sales area in the same region are calculated, at last, using the gross sales divide by total areas to obtain the average selling price of one region. In the same way, this paper gets the average land price per square meter. CPI and urban per capita disposable are also based on a monthly cumulated value and therefore a similar method is used to process the data. These four variables above are all regional averages of each quarter. GDP is the sum of each quarter of a region’s domestic product of all provinces and cities in that region. Interest rate is weighted average of each quarter, M2 is also an average of each quarter.

Model

This paper uses the ordinary least square (OLS) to estimate the regression coefficient in a regression equation using the ample data, and then analyzes the degree of influence that the independent variables has on the dependent variables. It finds the best-fitting function to a set of data by minimizing the error squares.

There are many of factors affecting the residential real estate prices, but the researcher cannot study all of them due to the method and data limitation in this paper. As mentioned above, there are seven explanatory variables to analysis in each of eight regions.

Based on the descriptive statistic of variables, differences among them are very large, in order to minimize these effects of difference and reduce the heteroscedasticity, therefore some variable are processed with logarithm. According the factors affecting the real estate prices, the multiple linear regression model can be described as follow:

$$LnAREP_t = \beta_0 + \beta_1 LnGDP_t + \beta_2 IR_t + \beta_3 ER_t + \beta_4 LnCPI_t + \beta_5 LnUDI_t + \beta_6 LnM2_t + \beta_7 LnLP_t + \mu$$

Note: This model runs 8 times in North-East China, Northern Coast Area, Middle Reaches of the Yellow River Area, South-West China, Middle Reaches of the Yangtze River Area, Southern Coastal Area, Eastern Coastal Area and North-West China.

Dependent variable:
- LnAREP: Natural logarithm of average residential real estate prices in each region.

Independent variables
- LnGDP: logarithm of gross domestic product in each region.
- IR: Nominal interest rate (Five-year benchmark lending rate)
- ER: Nominal exchange rate of RMB against US dollar
- LnCPI: Natural logarithm of consumer price index in each region
- LnUDI: Natural logarithm of urban per captia disposable income in each region
- LnM2: Natural logarithm of monetary supply
- LnLP: Natural logarithm of average land prices in each region

$\beta_{0:}$ Intercept

$\beta_{i:}$ Regression coefficient

μ: Random error

Results

This research analyzes the GDP, CPI, M2, exchange rate, lending interest rate, urban per capita disposable income, and how it affects the real estate price in eight economic zones based on the data during the period of first quarter of 2005 to the last quarter of 2016. Descriptive statistics, a multicollinearity tests, heteroscedasticity tests, autocorrelation tests, Regression result and interpretations will be performed, meanwhile, the relationships of variables will be confirmed.

Descriptive statistics

Table 1 Descriptive statistics results of original data in North-East China

Variable	Maximum	Minimum	Std. Dev.	Observations
AREP	5803.538	2193.683	1028.379	48
CPI	107.9556	98.9778	2.0398	48
ER	8.2765	6.1176	0.687	48
GDP	20008.77	3154.23	4401.514	48
IR	7.83	5.3022	0.6843	48
LP	5042.593	444.7167	1058.174	48
M2	1550067	264588.9	401491.3	48
UDI	7312.39	2064.6	1644.05	48

Table 2 Descriptive statistics results of original data in Northern Coast Area

Variable	Maximum	Minimum	Std. Dev.	Observations
AREP	8182.744	3213.942	1277.323	48
CPI	114.8333	98.4417	2.5289	48
ER	8.2765	6.1176	0.687	48
GDP	39713.55	7278.8	9037.138	48
IR	7.83	5.3022	0.6843	48
LP	15798.45	600.0473	3873.925	48
M2	1550067	264588.9	401491.3	48
UDI	10389.2	2960.675	2137.691	48

Table 3 Descriptive statistics results of original data in Middle Reaches of the Yellow River Area

Variable	Maximum	Minimum	Std. Dev.	Observations
AREP	5076.488	1612.212	1049.423	48
CPI	109.0333	99.3167	2.2024	48
ER	8.2765	6.1176	0.687	48
GDP	27530.08	3992.37	6385.245	48
IR	7.83	5.3022	0.6843	48
LP	6513.165	311.098	1551.646	48
M2	1550067	264588.9	401491.3	48
UDI	7494.413	2079.275	1688.391	48

Table 4 Descriptive statistics results of original data in South-West China

Variable	Maximum	Minimum	Std. Dev.	Observations
AREP	5203.358	1594.156	1124.111	48
CPI	109.6867	98.3133	2.3473	48
ER	8.2765	6.1177	0.687	48
GDP	29772.21	3840.93	6848.705	48
IR	7.83	5.3022	0.6844	48
LP	7211.685	434.2846	1789.241	48
M2	1550067	264588.9	401491.3	48
UDI	7738.126	2116.72	1620.012	48

Table 5 Descriptive statistics results of testing data in Middle Reaches of the Yangtze River Area

Variable	Maximum	Minimum	Std. Dev.	Observations
AREP	5739.857	1646.608	1212.595	48
CPI	108.25	98.4583	2.1022	48
ER	8.2765	6.1176	0.687	48
GDP	32336.14	4726.28	7600.514	48
IR	7.83	5.3022	0.6843	48
LP	5363.432	417.2442	1356.333	48
M2	1550067	264588.9	401491.3	48
UDI	8116.665	2027.75	1732.71	48

Table 6 Descriptive statistics results of original data in Southern Coastal Area

Variable	Maximum	Minimum	Std. Dev.	Observations
AREP	11062.42	3142.917	2051.855	48
CPI	107.7556	97.6222	2.1708	48
ER	8.2765	6.1176	0.687	48
GDP	33846.65	5511.06	7306.529	48
IR	7.83	5.3022	0.6843	48
LP	17292.58	566.0038	4110.782	48
M2	1550067	264588.9	401491.3	48
UDI	9575.583	2670.567	1921.97	48

Table 7 Descriptive statistics results of original data in Eastern Coastal Area

Variable	Maximum	Minimum	Std. Dev.	Observations
AREP	11713.57	3586.57	2165.757	48
CPI	107.2444	98.2333	1.9205	48
ER	8.2765	6.1176	0.687	48
GDP	42991.84	8104.25	9417.684	48
IR	7.83	5.3022	0.6843	48
LP	24803.76	1582.406	5668.001	48
M2	1550067	264588.9	401491.3	48
UDI	14089.47	3573.2	2774.567	48

Table 8 Descriptive statistics results of original data in North-West China

Variable	Maximum	Minimum	Std. Dev.	Observations
AREP	4537.106	1529.207	993.7658	48
CPI	110.1733	100.78	2.3371	48
ER	8.2765	6.1176	0.687	48
GDP	7674.94	916.72	1902.382	48
IR	7.83	5.3022	0.6843	48
LP	3795.033	249.2187	802.0951	48
M2	1550067	264588.9	401491.3	48
UDI	7176.296	1964	1541.121	48

Table 1 to 8 elaborates the descriptive statistics of all independent variables and dependent variables in each of eight regions. These descriptive statistics include: maximum, minimum, standard deviation and observing samples size.

Results of multicollinearity, heteroskedasticity and autocorrelation test

Table 9 The results of multicollinearity, heteroskedasticity and autocorrelation test

Region	TEST		
	Multicollinearity test	Heteroscedasticity test	Autocorrelation test
	Correlation matrix	White test	DW Test
North-East China	Yes	No	Yes
Northern Coast Area	Yes	No	No
Middle Reaches of the Yellow River Area	Yes	No	No
South-West China	Yes	No	No
Middle Reaches of the Yangtze River Area	Yes	No	No
Southern Coastal Area	Yes	Yes	Yes
Eastern Coastal Area	Yes	No	Yes
North-West China	Yes	N0	No

Note: Yes=Have related problem, No=Have no related problem

Table 9 shows the results of the multicllinearity, hetetoskedasticity and autocorrelaton tests. In this table, there is a multicolllinearity problem in each region, there is a heteroscedasticity problem in South Coastal Area, and there are autocorrelation problems in North-East China, Southern Coastal Area and Eastern Coastal Area. Stepwise regression analysis is used in this study in order to deal with this problem. In the Southern Coastal Area, the equation has heteriskedasticity and autocorrelation problems, the Newey-West method is used to resolve these problems.This research uses the generalized difference method to deal with the autocorrelation problems in North-East China, Middle Reaches of the Yangtze River Area and North-West China.

Regression result and interpretation

Regression result

Table 10 Regression result in North-East China

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.512391	1.526933	-2.300292	0.0269
ER	-0.142253	0.029246	-4.864011	0.0000***
IR	-0.054472	0.021347	-2.551684	0.0148**
LNCPI	1.942202	0.397442	4.886759	0.0000***
LNGDP	-0.241831	0.034022	-7.108036	0.0000***
LNM2	0.29761	0.170209	1.748498	0.0882*
LNUDI	0.276115	0.187713	1.470945	0.1493
AR(1)	-0.299743	0.173568	-1.726945	0.0921
R-squared	0.985673	Durbin-Watson stat	2.067215	
F-statistic	335.3845	Prob(F-statistic)	0.000000***	

*Note: *, **, ***= significant at the level of 10%, 5% and 1 %.*

The explanatory variables ER, LnCPI and LnGDP have significant effects on LnAREP at level 0.01, IR influence on LnAREP at level 0.05 and LnM2 impact on LnAREP at level 0.1. LnUDI has no significant impact on LnAREP. When the exchange rate increases 1 ¥/$, the average real residential real estate price will decrease 14.23%. Average residential real estate prices will decline 5.45% when the interest increases 1unit and prices will increase 1.94% when CPI increases 1%. When GDP increases 1%, the average residential real estate price will decrease 0.24%. The price will increase 0.30% when the M2 increase 1%.

Table 11 Regression results in Northern Coast Area

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.214825	0.754338	1.610453	0.1143
ER	0.086835	0.0327	2.655539	0.0109***
LNM2	0.50322	0.040624	12.38726	0.0000 ***
R-squared	0.921418	Durbin-Watson stat	1.823735	
F-statistic	263.826	Prob(F-statistic)	0.0000 ***	

*Note: *, **, ***= significant at the level of 10%, 5% and 1 %.*

The LnM2 and ER have significant impact on lnAREP at level 1% and 5%. The monetary supply and exchange rate all positively affect the real estate price, the housing price will increase 0.5% if M2 increases 1%; the price will increase 8.68% if the exchange rates increase 1¥/$.

Table 12 Regression results in Middle Reaches of the Yellow River Area

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.938188	1.948983	-2.020637	0.0496
ER	-0.078326	0.024741	-3.165826	0.0028***
LNCPI	1.035666	0.3555	2.913263	0.0057***
LNGDP	-0.161187	0.046935	-3.434281	0.0013***
LNM2	0.686439	0.045556	15.06791	0.0000***
R-squared	0.984809	Durbin-Watson stat		1.518038
F-statistic	696.9121	Prob(F-statistic)		0.0000 ***

*Note: *, **, ***= significant at the level of 10%, 5% and 1 %.*

According to this result, exchange rate and GDP negatively influence the average residential real estate price, and CPI and M2 positively impact on housing prices in Middle Reaches of the Yellow River Area. When ER increase 1¥/$, prices will decrease 7.83%. A CPI increase of 1% will lead to housing prices increasing 1.0357%. When the GDP increases 1%, the price will decrease 0.16%. The real estate price will increase 0.68% if M2 increases 1%.

Table 13 Regression results in South-West China

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-7.549803	2.279593	-3.311909	0.0019
ER	-0.162627	0.025589	-6.355399	0.0000***
LNCPI	1.931299	0.378182	5.106804	0.0000***
LNGDP	-0.154264	0.058021	-2.658757	0.0111**
LNLP	-0.093374	0.033296	-2.804334	0.0077***
LNM2	1.040418	0.15163	6.861553	0.0000***
LNUDI	-0.478125	0.118496	-4.034944	0.0002***
R-squared	0.983336	Durbin-Watson stat		1.519262
F-statistic	403.2252	Prob(F-statistic)		0.0000 ***

*Note: *, **, ***= significant at the level of 10%, 5% and 1 %.*

The probability value is 0.0000 that means all independent variables can be used to determine their impact on dependent variable at significant statistic 5%. In this region, the independent variables ER, GDP, LP and UDI negatively impact on average residential estate prices; CPI and M2 positively influence prices. When the GDP, LP and UDI increase 1%, respectively, this will lead to the housing prices decreasing 0.15%, 0.09% and 0.48%. When ER increases 1¥/$, the prices will decrease 16.26%. If CPI and M2 increase 1% the average prices will increase 1.93% and 1.04% respectively.

Table 14 Regression results in Middle Reaches of the Yangtze River Area

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-7.373315	2.10271	-3.506576	0.0011
IR	0.046163	0.014366	3.213356	0.0025***
LNCPI	1.030272	0.453352	2.272564	0.0282**
LNGDP	-0.250392	0.057747	-4.335983	0.0001***
LNM2	1.10907	0.105276	10.53491	0.0000***
LNUDI	-0.253208	0.085135	-2.974188	0.0049***
R-squared	0.988253	Durbin-Watson stat		2.036069
F-statistic	706.6789	Prob(F-statistic)		0.0000***

*Note: *, **, ***= significant at the level of 10%, 5% and 1 %.*

According to these results, the probability value is 0.000 that means all independent variables can be used to determine their impact on dependent variable at significant statistic 1%. When IR increases 1 unit, the housing price will increase 1%, A CPI increase of 1% will lead to price increases of 1.03%. When monetary supply increases 1% the prices will go up 1.11%. When GDP and urban per capita disposable income increase 1%, respectively, the average residential real estate price will decline 0.2503% and 0.2532%.

Table 15 Regression results in Southern Coastal Area

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-5.138753	2.762289	-1.860324	0.0694
LNCPI	1.358926	0.570573	2.381687	0.0215**
LNM2	0.569164	0.031506	18.06502	0.0000***
R-squared	0.958401	Durbin-Watson stat		0.955717
F-statistic	518.3781	Wald F-statistic		163.7483
Prob(F-statistic)	0.0000***	Prob(Wald F-statistic)		0.0000

*Note: *, **, ***= significant at the level of 10%, 5% and 1 %.*

According to regression result, the probability value is 0.000 that means all independent variables can be used to determine their impact on dependent variable LnAREP at significant statistic 1%. In Southern Coastal Area, the independent variables LnCPI and LnM2 significantly impact on LnAREP. When CPI increases 1%, the prices will increase 1.36%. When M2 increases 1%, the housing prices will increase 0.57%.

Table 16 Regression results in Eastern Coastal Area

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-5.87342	3.877938	-1.514573	0.1376
LNCPI	1.578507	0.85778	1.840224	0.073*
LNGDP	-0.468293	0.130752	-3.581549	0.0009***
LNM2	1.184964	0.172123	6.884392	0.0000***
LNUDI	-0.432102	0.119991	-3.601129	0.0008***
AR(1)	0.395449	0.157856	2.505123	0.0163
SIGMASQ	0.003784	0.000858	4.41207	0.0001
R-squared	0.96031	Durbin-Watson stat	2.039547	
F-statistic	165.3348	Prob(F-statistic)	0.0000***	

*Note: *, **, ***= significant at the level of 10%, 5% and 1 %.*

According this result, the value of probability is 0.00 which is less than 0.01. That means all independent variables can use to determine their impact on the dependent variable LnAREP at significant statistic 0.01. When CPI increases 1%, the prices will increase 1.58%. When GDP increase 1%, the prices will decrease 0.47%. When the M2 increases 1%, the housing prices will increase 1.18%. The prices will decline 0.43% when UDI increases 1%.

Table 17 Regression results in North-West China

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4.352127	1.295593	-3.359179	0.0016
LNCPI	0.751929	0.274373	2.740537	0.0088***
LNLP	-0.041265	0.013719	-3.007961	0.0043***
LNM2	0.67629	0.017497	38.6513	0.0000***
R-squared	0.987171	Durbin-Watson stat	1.750582	
F-statistic	1128.582	Prob(F-statistic)	0.0000***	

*Note: *, **, ***= significant at the level of 10%, 5% and 1 %.*

According this result, the value of probability is 0.0000 which is less than 0.01 that means all independent variables can determine their impact on the dependent variable LnAREP at significant statistic 0.01. They have a negative relationship between LP and LnAREP. The prices will increase 0.75% when CPI increases 1%. When M2 increases 1%, the residential real estate price will increase 0.68%. When LP increases 1%, the housing prices will decline 0.04%.

Conclusion and discussion

Gross domestic product (GDP)

The results above show that GDP negatively affects residential real estate price in North-East China, Middle Reaches of the Yellow River Area, South-West China, Middle Reaches of the Yangtze River Area and Eastern Coastal Area. These results are not in concert with the previous studies. Belejand and Cellmer (2014), Li and Hu (2011) all pointed out that the GDP affects real estate price positively.

In this paper, the researcher investigates the eight economic regions; however, economic developments are unbalanced in different provinces and cities. When they are integrated into a large area this causes the result to be bias. In recently years, the government strengthened macro-control on real estate price and China's economic transition led to the growth of GDP slowdown. There are only seven independent variables, but factors affecting housing price are complicated. These variables which are selected cannot present the truth in some regions. That's why GDP negatively affects real estate prices in some areas.

Interest rate (IR)

The results of this research as follows, interest rate have a significantly negative effect on the residential real estate prices in Eastern Coastal Area and positive affects in Middle Reaches of the Yangtze River Area. That is in compliance with literature review, such as Harris (1989), Englund and Ioannides (1997), Gao and He (2006), all of which pointed out that there is a negative relationship between interest rate and housing prices. Zheng and Guo (2011), found the interest rate positively affects the housing priced.

This study chooses the Five-year benchmark lending rate. The rate increase leads to cost increase which causes prices to rise. On the other hand, high interest rates will increase the pressure of purchasing property. Some people will change their decision to purchase property which will lead to a change in supply and demand. Therefore, they have a negative relationship. At the same time, the data of some areas is missed. Therefore, the interest rate doesn't impact on housing prices in other areas.

Monetary supply (M2)

Based on the above results, monetary supply has a significant positive influence on residential real estate prices in each region; this is consistent with previous research, such as William (2002), Gao (2008), Elbourne (2008), Huang and Wang (2010) and Xu(2011)

In past years, the growth rate of M2 has been higher than the GDP growth rate which results in money over issue. This meaning is the growth rate of money supply exceeds the growth rate of money demand, that is, the amount of money issued exceeds the amount of money needed to maintain the normal operation of the economy. Superfluous money leads to the purchasing power enhancement that promotes the housing prices to rise.

Consumer price index (CPI)

According to the result of this study, CPI positively affects the residential real estate prices in the North-East China, South-West China, Middle Reaches of the Yangtze River Area, Southern Coastal Area, Eastern Coastal Area and North-West China. Those are in compliance with previous studies. Yuan (2012), Zhang (2013), and Xu and Zhang (2012) believed that high CPI promotes high real estate prices. Pang and Mao (2013) believed they have a long-term equilibrium relationship between these two variables.

In China, even though the housing price doesn’t factor into the calculation of the consumer price index, the rising housing prices still lead to CPI being driven up. At the same time, when prices rise rapidly it can be expressed as high inflation, demand exceeds supply and prices skyrocket. All of these factors will cause the housing prices to increase. The complexity of region and imbalance of development, selection of methodology and independent variables and sample size can be the reason why CPI affects the housing prices at different level in different regions.

Exchange rate (ER)

From the results of the analysis, the exchange rate affects residential real estate prices negatively in the North-east of China, Middle Reaches of the Yellow River Area and South-west China. However, Affects on housing prices are positive in Northern Coast Area. These results are in alignment with the forerunner's studies. Wang (2009) and Han and Wang (2011) pointed out that the exchange rate is negatively related to housing prices. Greg Smersh (1999), Chen and Liu (2009) believed that exchange rate increases lead to a rise in house prices

RMB exchange rate depends on supply and demand. When the RMB is depreciated, some investors will purchase the property to respond to loss that causes the price to increase. Therefore, exchange rate can negatively impact on housing prices. On the other hand, high RMB exchange rate leads international hot money in-flow to China. Finally, some hot money in-flow into real estate industry results in high housing prices. In the past, China adopted the strict currency control and intervention. At the same time the Research method, variable selection and sample size may be the reason why the exchange rate doesn't influence prices in some areas.

Urban per capita disposable income (UDI)

Following the result, urban per capita disposable income positively impacts on residential real estate prices in Northern Coast Area China. That is in accordance with previous studies, Such as Miller and Liang (2006), who believed that per capita income is a major reason for price volatility. Abraham and Hendershott (1996), Tu and Zhang (2005), David H (2005), Égert,and Mihaljek (2007). Disposable income negatively impacts on housing prices in South-west China, Middle Reaches of the Yangtze River and Eastern Coastal Area. Those results are different from the research mentioned above.

The purchasing power of people will increase along with rising disposable income. At the same time, more and more people hope to improve housing conditions as the residential income continues to grow. In recently years, the government strengthened macro-control on real estate prices. Most of the provinces and cities implemented the stringent restriction of purchase policy in particular. So they have a negative relationship between them. The average value in one region is analyzed; however, the income gap is very large in different provinces and cities. Sample size, research method and variables selection also leads to the research result being different.

Land price (LP)

The result of this paper presents that land prices have a negative effect on housing prices in South-West China and North-West China. That is different from the preceding researches, Cao (2000) pointed out that land prices positively affects the housing prices. Joseph and Hilber (2002) believed that there is no direct relationship between land prices and housing prices. Kuang (2005) confirmed that they are negatively correlated when supply exceeds demand, and they are positively correlated when supply is smaller than demand.

Pricing mechanisms are complicated, although land cost is an important part of housing price, it is not a determinant. Housing price is determined by supply and demand. In recently years, in South-West China and North-West China, The economy of these two regions developed rapidly which caused the high demand for real estate. This is not interrelated with other regions due to limitations in research methodology, analysis tools, data processing or variable selection.

Implication for the study

The results of this paper provide a reference for academicians and later researchers who want to study this field. The findings of this study provide some information for real estate enterprises, other companies and relevant industries when they make strategies. With the deepening of economic reform in China, real estate companies face more and more challenges and potential opportunities. They will be able to respond quickly according to the results of this study, which determines the factor effecting real estate prices. When the factors trend becomes positive the company can increase their investment. Companies can assess the economic environment and formulate feasible and effective mechanism of cost and pricing. Companies can gather more information from the different channels, strengthen market research, enhance the performance of the company, and optimize the structure of the company. Different regions have different influencing factors. The company should distinguish these factors then make a reasonable decision.

Research recommendation

High monetary supply promotes the residential real estate prices to increase continually. Exchange rate affects housing price by capital flow. The government can control the property prices by changing interest rates. In general, they are all issued by the government. In other words, real estate enterprises and related industries should be wary of changes to monetary policy which tighten or loosen and adjust quickly according these changes. At the same time; they should pay more attention to capital flows and change of interest rate, then rationally adjust the capital structure to meet changes. After all, high interest rates lead to cost increases and cause the housing prices to go up. They also increase the cost to the company and decrease the purchasing demand. As mentioned above, the companies should make decisions considering the above factors as a whole.

Land is an important influencing factor on real estate prices. When the land prices change, the housing price will be affected. The real estate enterprises cannot blindly make decisions on purchasing at land auctions. Sales will reduce if people can't bear the higher prices. Moreover, the capital return of the company will be slowed down because of the increase in the cost of land and could create a series of problems. Therefore, the company should make reasonable land price policy.

The regions GDP reflects its' economic development. Urban per capita disposable income is used to measure the variation in living standard. Therefore, the real estate companies should modify the corporate strategy when economic growth is up or down. When disposable income increases this means that consumer power strengthen. The company can adjust the prices according to the economic growth and income status. CPI also has an affects on housing prices, high CPI promotes the price rising. However, the companies need to be concerned about high inflation that will endanger the real estate industry and even the whole national economy.

All of the factors affecting real estate prices present different effects in different areas. That is to say, one factor influencing house prices in one region may not have the same influence in another area. Therefore, the enterprise can modify the investment to other fields and regions when some factors begin to deteriorate.

Limitations and further research

This paper only chooses seven factors affecting residential real estate price: gross domestic product, exchange rate, interest rate, monetary supply, consumer price index, land price and urban per capita disposable income. However, some others elements impacting on housing prices are omitted. This will cause the results to be contained within inevitable limitations.

This study researches eight regions in China, however, different provinces and cities within intra-regional areas adopt different policies. As a result the difference of economic development is large. That might lead to the results not reflecting the state of some parts of the country.

Some statistic data is missing which lead to the data generation process which has limitation. The data of average residential real estate prices and land prices are averages of all the provinces and cities in one economic area. Because the data types of some variables are monthly, they need to be adjusted into quarterly data that could cause error. In this article, there are 48 observations based on quarterly data between 2005 and 2016, therefore, the range is not big enough. In future, researchers should expand observation size to obtain more accurate research results.

This paper builds the multiple linear regression model to examine the factors influencing residential real estate prices. However, there are many research methods that can be used which may provide useful results. In the future researchers can adopt different models and methods to study residential real estate from different perspectives.

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MIDDLE-INCOME TRAP: REFLECTION ON MALAYSIA'S ECONOMIC DEVELOPMENT AND POLICY IMPLICATIONS

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Abstract

This paper comprehensively reviews the literature on "middle-income trap" and reflects upon the case of Malaysia's middle-income transition with attention to drawing relevant policy implications. The review looks into the discussions on middle-income trap and its causes from both economic and institutional perspectives. The investigation on Malaysia is conducted through the analysis of structural change and sources of growth in comparison with the performance of the two Asian Tigers, South Korea and Taiwan. Malaysia achieved remarkable growth during its lower-middle-income stage, but was "trapped" in the upper-middle-income years as its growth declined substantially. The slowdown was driven by the significant decline in private investment, resulted mainly from the outflow of capital together with decreasing inward FDI. This was somehow triggered by macro uncertainties from the Asian Financial Crisis leading to pervasive pessimism among investors about the economic prospects, coupled with the long-lasting unfavorable business environment due to discriminatory policies favoring the Malays and the crowding-out of government-linked corporations. Malaysia consistently faced multiple structural issues throughout its middle-income stage, including sluggish total factor productivity growth, relatively modest structural change, slow industrial upgrading and premature deindustrialization, which had root in the slow upgrade of human capital, technological capabilities, indigenous capacity, and the integration with the FDI sector. Low and lower-middle-income nations like those of ASEAN region should pay strategic attention to all these issues from the early years of their economic catch-up endeavors in order to overcome unforeseen shocks and maintain sufficient growth momentum for middle-income transition.

Keywords: middle-income trap; private investment; human capital; technological capabilities; Malaysia

Introduction

Economic development is a transformational process that requires continuously upgrading and shifting the production of goods and services toward higher value-added activities. But many countries have been unable to sustain this process because they failed to cope with the emerging requirements of the higher stages of development. This implies the success of a nation in moving from low to middle income does not guarantee a smooth transition from middle to high income. In fact, most countries in Latin America and the Middle East reached middle-income level during the 1960s and 1970s and have stuck there ever since. According to a study of the World Bank, of 101 economies classified as middle income in 1960, only 13 managed to achieve high income by 2008 (Agénor & Canuto, 2015). Similarly, Spence (2011) observed that since 1975 only a few countries were able to exceed the threshold of $10,000 (2005 PPP$) in per capita income, while many remained in the range of $5,000-$10,000.

The concern about particular challenges at the middle-income stage was noticed by Garrett (2004), but it was not until the World Bank's 2007 report that the concept of "middle-income trap" was first coined (Gill & Kharas, 2007). MIT countries are those that fail to adapt their growth strategies to the prevailing structural characteristics of their economies as they progress to higher income levels. Two types of common "traps" are usually facing the middle-income nations. On the one hand, many middle-income countries still maintain their old growth strategy based on labor-intensive, export-led manufacturing despite the comparative disadvantage of rising wages. On the other hand, prematurely leapfrogging into knowledge economies when lacking necessary conditions such as high-quality universities, human resource, venture capital, and robust regulatory environment, would not enable middle-income countries to transition to innovation-driven economies (Gill & Kharas, 2007, 2015).

Malaysia has been frequently regarded as a typical case of MIT. The country was among the economies that made up the so-called "East Asian miracle" in economic development history, implying the superior performance of the eight high-performing Asian economies between 1965 and 1990 (World Bank, 1993).[1] Malaysia was expected to be in the next wave of economies joining the league of emerging high-income nations following the four Asian Tigers. The prediction, however, turned out to be over-optimistic as the following two decades witnessed its significant growth slowdown, hindering the country from becoming an advanced economy.

This paper offers a comprehensive review of literature on middle-income trap and examines the case of Malaysia. The study focuses on investigating Malaysia's economic performance over its middle-income years and the factors that have "trapped" the country in this particular income stage. Insights from the economic growth journey of Malaysia, a relatively successful mid-size economy in Southeast Asia, provide useful policy

[1] These economies include Japan, the "Four Tigers" (Hong Kong, Singapore, South Korea, and Taiwan), and three newly industrialized countries (Indonesia, Malaysia, and Thailand).

implications for developing countries in their efforts to achieve sustained robust economic performance and successfully manage their middle-income transition.

The paper proceeds as follows. Section 2 examines empirical evidence and the causes of MIT. Section 3 investigates the performance of Malaysia's economy with the analysis on the economic factors underlying its middle-income slowdown, followed by in-depth discussion about the causes in Section 4. Section 5 concludes and draws policy implications.

Empirical evidence and causes of middle-income trap

The emergence of the MIT concept has motivated intensive debate without coming to a clear consensus among scholars. The following provides detailed discussion about empirical evidence and the causes of MIT.

Empirical evidence

Studies aiming to identify countries falling into MIT are generally based on two approaches. The absolute approach aims to quantify the income range, growth rate or time span that MIT countries have experienced. In the study of 124 countries over 1950-2010, Felipe (2012) posited that a country needs 28 years with per capita income growth of 4.7% annually to move from lower-middle to upper-middle income and another 14 years with a growth rate of 3.5% to graduate from upper-middle to high income. The study suggested a country as being stuck in MIT when it could not reach the middle-income level within the respective time span. In an updated study, however, Felipe et al. (2017) rejected the existence of MIT as a generalized phenomenon. Instead, they simply distinguished the economies according to their speed of transition from middle to high income. The study revealed the median time of 45 countries successfully transforming from lower-middle to upper-middle income was 55 years, and the median time of 30 economies transitioning from upper-middle to high income was 15 years. These two thresholds served as the criteria to classify a middle-income economy as slow or fast transition. By defining MIT as growth slowdown, Eichengreen et al. (2012, 2014) investigated the income levels at which the slowdown is more likely to occur for middle-income economies. The 2012 study showed that the slowdown mostly occurred around the income range of \$15,000-\$16,000 in 2005 PPP\$, while the 2014 study revealed another possibility of \$10,000-\$11,000. Aiyar et al. (2018) also examined growth slowdown and found 123 slowdown episodes of 138 countries in 1955-2009 and the higher frequency of slowdown experienced by middle-income nations compared to low- or high-income groups.

Another stream of MIT studies was based on the relative approach by investigating the dynamics of catching up of middle-income countries with advanced economies. With the same approach, Agénor et al. (2012) and World Bank (2013) identified countries stuck in MIT as those that were unable to exceed the range between 5% and 45% of the US per capita income in about 50 years (1960-2008), while Woo (2012) proposed the range of 20%-55%. Similarly, Bulman et al. (2017) set the middle-income range between 10% and 50% of the US per capita GDP, and posited that a country was stuck in middle-income if it remained in this range during 1960-2009. They found no evidence for unusual stagnation at any particular middle-income level, and argued that the determinants of growth at middle-income level differ from those at low income, and countries stuck in MIT are those that fail to make adjustments to adapt to growth requirements of higher income stage. Similarly, from the group of 127 countries during 1950-2008, Im and Rosenblatt (2015) examined the probability of a country moving into the next income category and revealed that the likelihood of the transition from lower-middle to upper-middle income is similar to that of the transition from upper-middle to high income, and thus failed to support the existence of a particular trap at middle-income stage.

Causes of middle-income trap

Economic perspective

Most of the explanations on the causes of MIT mainly derive from traditional economic models, identifying the factors driving growth such as structural change, investment, human capital, and innovation. The first is the slowdown of structural change, which is associated with the dual-sector model dated back to Lewis (1954). Low-income economies tend to gain substantial growth from structural transformation through reallocating capital and labor from agriculture to more productive activities. This effect, however, weakens considerably when these economies reach middle-income level (Eichengreen, 2011; Agénor & Canuto, 2015).

The second, which is partly a consequence of the first, is the decline of investment due to deteriorated competitiveness of the economy when it encounters the “Lewis turning point” (LTP) but lacks capabilities to develop higher value-added activities. LTP is an economic situation when unskilled labor released from the agricultural sector is exhausted and wages start to rise rapidly (Gill & Kharas, 2015; Cai, 2012). The labor-intensive industries, therefore, would become less competitive and finally decline. In such a case, the FDI in labor-intensive industries would shift to other countries with lower wage level, and domestic investment in such industries would also shrink. If the economy lacks the conditions such as quality labor or technological capabilities necessary for fostering higher value-added activities, the decline in investment from FDI and domestic investors would eventually lead to growth stagnation.

The third is the failure to resume momentum by shifting to endogenous growth driven mainly by upgraded human capital, technological capabilities, and management capacity. As discussed above, facing the LTP requires restructuring the economy through boosting intra-industry productivity and shifting to higher value-added activities, which in turn requires new skill sets and technological capabilities. Ohno (2009) posited that the MIT countries were usually the ones that failed to upgrade human capital and technological capabilities, and their indigenous sectors were unsuccessful in mastering technology and management capabilities allowing them to replace foreigners in major activities of production and become exporters of high quality products. In contrast, Eichengreen et al. (2014) found lower frequency of growth slowdown in countries that have relatively large share of population with higher secondary and tertiary education. Bulman et al. (2017) also evidenced that economies escaping the middle income experienced higher total factor productivity (TFP) growth.

Institutional perspective

While economic development literature provides understanding about the proper policies and conditions necessary for overcoming slowdown in middle-income countries, the obvious question would be why many of these economies have been unable to offer such policies and conditions. Wang (2016) argued that the existing stakeholders may not be receptive to policy changes necessary for the new stage of development if their interests are endangered. That is, one needs to look into the political economy of the transition process in the context of middle-income economies, which sheds light on the underlying institutional constraints that may hinder growth.

In general, there has been a consensus that democracy is a necessary condition for transition from middle to high income. As Gill and Kharas (2015) argued, at low income level, authoritarianism can be better for growth as it can provide decisive leadership to speed up the transformational process. However, at middle-income level when the economy becomes more complex, greater institutional stability is necessary, which is better provided by a democracy. A democratic regime ensures not only conducive conditions for growth such as control of corruption, transparency, and the rules of law but also responsive bureaucracies and good governance necessary for effective implementation of growth strategies (Rudengren et al., 2014).

Some discussions on institutional issues, drawing from the successful experiences of late comers such as South Korea, Singapore, Taiwan, and Ireland, stressed the importance of some minimal political requisites such as political will, long time horizons of political leaders, broad societal consensus, business-government collaboration, and some degree of inclusive politics for enacting necessary policies (Flechtner & Panther, 2015). Unfortunately, many middle-income countries seemed to lack such requisites and were stuck in MIT.

It is observed, however, that the nature of the required upgrading policies during middle income seems to be the key challenge that hinders necessary reforms. Doner and Schneider (2017) argued that, in essence, upgrading policies such as promoting quality education and R&D at the middle-income stage are much more challenging than the earlier factor-driven growth policies focusing largely on the mobilization and accumulation of capital and labor. Such upgrading policies to get closer to the technological frontiers take more time to implement, require the participation of numerous stakeholders, and demand more technical and site-specific information than reforms that can be accomplished by the one-off decisions. These characteristics of upgrading policies demand more sophisticated institutional arrangements for successful implementation (Hanson, 2008; Doner & Schneider, 2017). Doner and Schneider posited that building such institutional arrangements requires the presence of "pro-upgrading coalitions", in which key stake-holders act toward the shared purposes. Such coalitions, however, are unlikely to exist in many middle-countries due to misalignment of interests.

Malaysia's economic performance and middle-income trap

This section examines the long-term economic performance of Malaysia over the past five decades. We first provide an overview of Malaysia's growth and discuss the transition of the country through the middle-income stage. Then we investigate the economic factors underlying the significant growth slowdown, which may hint some structural issues of the economy. The performance of Malaysia is contrasting to that of the two Asian Tigers, South Korea and Taiwan, wherever possible. The two Tigers and Malaysia are comparable in terms of size and development level in 1960s. In later decades, among the mid-size economies making up the East Asian miracle, South Korea and Taiwan were the most successful, followed by Malaysia, which makes the comparison reasonable.

Malaysia: in the middle-income trap?

Malaysia achieved remarkable economic growth during its early decades of development after regaining independence in 1957. The economy picked up speed from sluggish growth of below 3% on average in the 1950s to about 6% in the 1960s to above 8% in the 1970s before slowing down to below 5% in 1981-1986. Growth, however, recovered its momentum and surged to above 9% in 1987-1997, enabling Malaysia to transition into the upper-middle-income stage. The eruption of the Asian Financial Crisis (AFC) marked the start of a new course of development for Malaysia – a prolonged period of slowdown. The economy sufferred severely from the AFC, with GDP dropped by -7.4% in 1998, followed by a significant slowdown in subsequent years. Malaysia was hit hard again by the Global Financial Crisis (GFC) with GDP contracted by -1.5% in 2009, making a decade of stagnation of below 4% growth during 1998-2009 before bouncing back slightly to above 5% in the recent period 2010-2016.[2]

The growth pattern of Malaysia generally resembled those of the two sizeable Asian Tigers, South Korea and Taiwan (Figure 1). These economies performed well for almost four decades since 1960, except for the stagnation in 1980s, and all experienced significant slowdown with similar growth rates after the AFC. The key difference, however, was that the two Asian Tigers commanded a higher growth rate of 2% points or more, which enabled them to achieve high-income status before the AFC. With lower growth rate, in contrast, Malaysia could only attained upper-middle income by this critical juncture. The following discuss the transition of Malaysia's economy and the fall into MIT.

[2] These calculations are based on data of The Conference Board (2017).

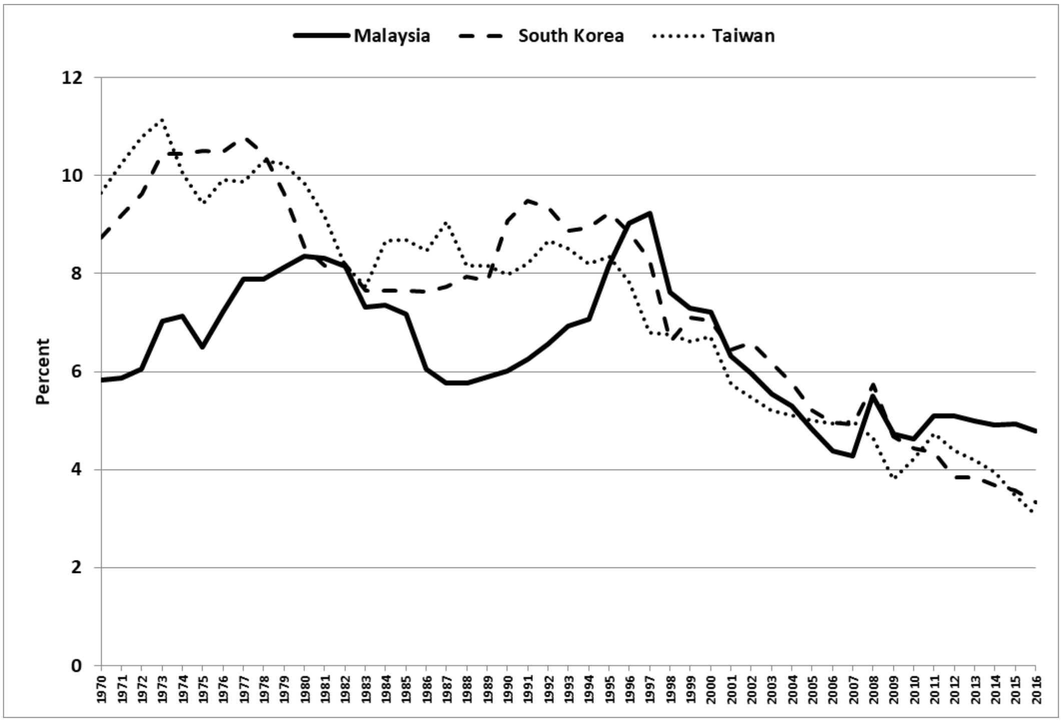

Figure 1 GDP growth (10-year moving average), 1970-2016

Source: Author; data from The Conference Board (2017)

Malaysia has been pointed out as a typical case of slow transition (e.g., Felipe et al., 2017) or MIT (e.g., Woo, 2012; World Bank, 2013), whether from absolute or relative approach. The country maintained a higher income level than those of South Korea and Taiwan for most of the two decades from 1950 to 1970. According to income categorization of Felipe et al. (2017), Malaysia transitioned from low to lower-middle income in 1969, the same time with South Korea and two years after Taiwan, and reached the thresholds of upper-middle income in 1996 and high income in 2015. It is noted, however, that it took 46 years for Malaysia to go through the middle income compared to 26 years of South Korea and Taiwan. This comprised 27 years in lower-middle income and 19 years in upper-middle income, compared to only 19 and seven years of the two Tigers over the respective income ranges (Figure 2A). With 27 years of transition through lower-middle income, the country experienced a fast transition during this period according to Felipe et al. (2017). However, the 19 years in upper-middle income, nearly three times compared to those of the two Tigers, imply Malaysia indeed underwent a slow transition over the past two decades.

The performance of Malaysia looked even less impressive when examined from the relative approach, i.e. in terms of economic catch-up. Malaysia's relative GDP per capita stood still at about 14% of the US level throughout the 1950s and the 1960s before catching up moderately in the 1970s to reach 20% in 1980, followed by a stagnation during 1980-1987. The relative income level increased dramatically in the following decade to 30% in 1997 before being hit hard by the AFC, and stagnated again throughout the first decade of the 21st century. The relative income only recovered to the level before the AFC (30%) in 2010, and then rose to 35% in 2016 (Figure 2B). It is noted that the current income level of Malaysia is less than a half of those of South Korea and Taiwan. With the relative income level of 35% in 2016 far below the threshold of around 50% of the US level and the long lasting middle-income transition of over 50 years, it can be concluded that Malaysia has been caught in the MIT, according to Woo (2012) or World Bank (2013).[3]

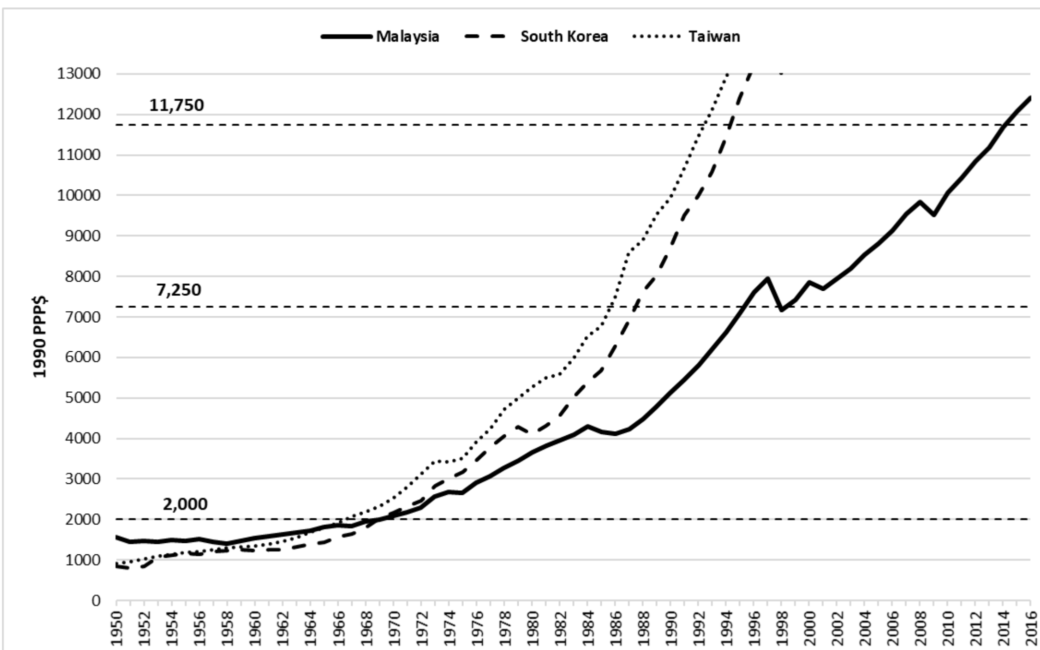

Figure 2A GDP per capita, 1950-2016

Source: Author; data from The Conference Board (2017)

[3] As of 2017, the World Bank still categorized Malaysia as a middle-income economy, the status the country has achieved since 1992. This categorization is based on both income and non-income measures. See Felipe et al. (2017) for more details.

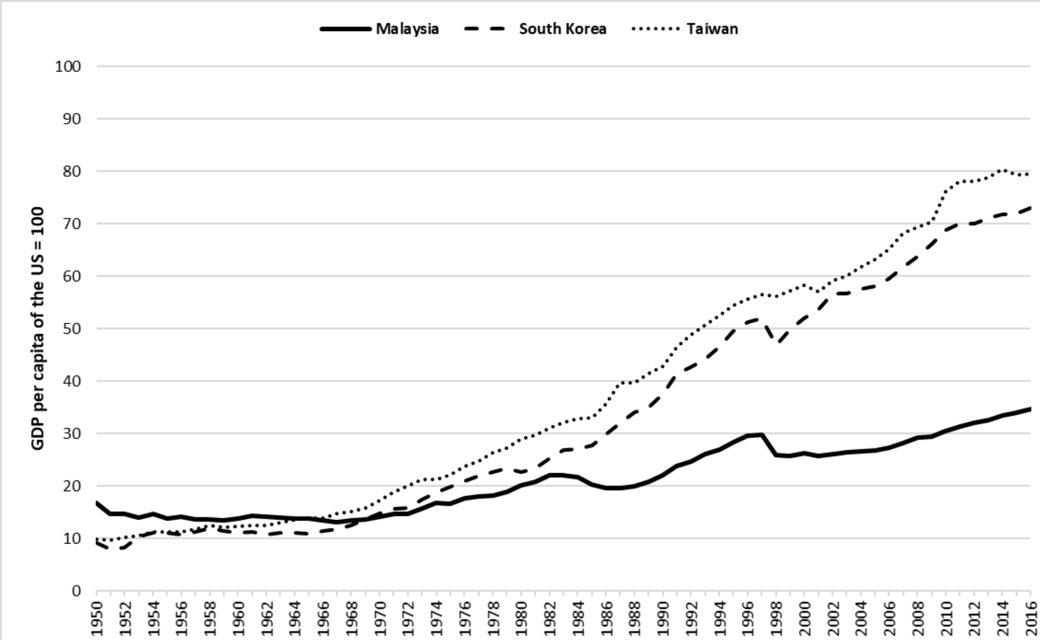

Figure 2B GDP per capita relative to the US: Malaysia vs. two Asian Tigers

Source: Author; data from The Conference Board (2017)

Economic factors underlying Malaysia's slowdown

This subsection further examines the economic factors underlying the slowdown of the Malaysian economy. The investigation is conducted through the comparative analysis of structural change and sources of growth with a focus on its middle-income stage, 1969-2015. For the sake of analysis, the performance of Malaysia is contrasting to that of the two Asian Tigers in comparative income stages following the categorization by Felipe et al. (2017).

Structural change approach

Malaysia underwent structural transformation that dramatically altered its economic structure, especially during the lower-middle-income transition. The economy in the 1960s was mainly dominated by agricultural activities accounting for over 40% of GDP, nearly twice as much as that of the industrial sector (World Bank, 2017). Like the two Asian Tigers, the subsequent decades witnessed the substaintial shrinkage of primary sector, while other sectors rose accordingly (Table 1). Together with this process was the aggressive integration into the world economy, with merchandise trade increasing steeply from about 80% of GDP in the 1970s to 190% in 2000 before declining to 130% in 2015, making Malaysia one of the most open economies in the region. The integration was driven by the country's export-oriented growth strategy, which strongly promoted manufacturing activities, from light manufacturings such as food processing and garments in the early years to more sophisticated ones such as information and communication technology (ICT) hardware in the 1980s, resulting in sharply rising export especially from the mid 1980s. The merchandise export as a percentage of GDP increased from 40% in the early 1970s to 50% in 1986 to about 80% before the AFC before peaking at over 100% around 2000 and then declining gradually to 67% in 2015 (World Bank, 2017). This growth strategy was facilitated by deliberate policies of attracting FDI, particularly in export-oriented industries such as ICT hardward, with inward FDI stock as a percentage of GDP rising steeply from about 20% in 1980s to over 50% in 2000 before declining to 30%-40% in the following years (UNCTAD, 2017). It is noted that the degree of integration of Malaysia in terms of international trade and FDI attraction was far higher than that of the two Asian Tigers.

Table 1 Economic structure by income stage

	Malaysia			South Korea			Taiwan		
	1970	**1996**	**2015**	**1970**	**1988**	**1995**	**1970**	**1986**	**1993**
GDP share (%)									
Agriculture	31.1	11.8	8.4	29.0	10.2	5.9	16.9	5.6	3.7
Mining	6.7	4.4	8.9	1.6	0.9	0.4	0.9	0.4	0.5
Manufacturing	12.9	26.1	22.6	19.0	30.5	28.3	28.9	39.4	29.3
Utilities	2.3	2.6	2.7	1.4	2.8	2.3	3.7	4.6	3.3
Construction	3.9	6.6	4.8	5.1	6.3	9.0	3.8	3.7	5.0
Services	43.1	48.5	52.7	43.8	49.4	54.1	45.8	46.3	58.3
Employment share (%)									
Agriculture	40.0	19.4	11.8	50.3	20.7	11.8	40.9	16.9	11.4
Mining	1.6	0.4	0.8	1.3	0.9	0.1	1.0	0.4	0.2
Manufacturing	12.4	22.8	16.1	12.6	26.6	22.7	20.3	33.6	28.2
Utilities	0.6	0.5	0.5	0.3	0.3	0.3	0.7	1.0	1.0
Construction	5.3	8.5	9.9	2.9	6.1	9.4	4.2	6.8	10.0
Services	40.2	48.4	61.0	32.6	45.4	55.6	32.8	41.3	49.2

Source: Author's calculation; data from Asian Productivity Organization (2020)

Compared with the two Asian Tigers, three significant differences from the pattern of Malaysia's structural change stand out. First, the pace of transformation was lower than that of the two Tigers. As the economy progressed, Malaysia generally had a similar economic structure for major sectors compared to those of the two Tigers, but it took longer time for such a transformation. For instance, during the lower-middle-income stage, the employment share of agriculture sector shrank by -0.8% anually, compared to -1.6% for South Korea and -1% for Taiwan. On the other hand, the employment share of manufacturing and services sectors expanded by 0.5% and 0.3% per annum, respectively, compared to 0.8% and 0.7% of South Korea. Second, Malaysia maintained a sizeable mining sector in terms of GDP share throughout its development (in the range of 3%-16%), suggesting that the country has been lastingly dependent on its rich natural resources despite great effort of diversification.

Third, the industrialization of the Malaysian economy, measured by manufacturing share in terms of output and employment,[4] was weaker than those of the two Tigers. Malaysia achieved industrialized status around 1990 in terms of both output and employment, more than a decade after South Korea. Its industrialization peaked around 2000 with manufacturing share of 29% for output and 24% for employment, before deindustrializing in the 2000s.[5] In terms of output, the peak share was much lower than that of Taiwan and comparable with that of South Korea. The two Tigers, however, still maintained a high level of output share of nearly 30% until recent years, while Malaysia has deindustrialized considerably (Figure 3A).[6] Therefore, Malaysia's industrialization stage in terms of output, lasting for about 15 years, was significantly shorter than those of the two Tigers. Similar trend was also observed for Malaysia's manufacturing employment share with considerably lower peak (Figure 3B). In addition, the industrialization period in terms of employment only lasted for about 10 years compared to 15 years of South Korea, while Taiwan still maintained a large manufacturing sector in its labor force until rencent years. It is worth noting that South Korea and Taiwan started to deindustrialize in the first half of the 1990s when they almost attained high income status, while Malaysia's deindustrialization occurred around 2000 when the country was in early years of upper-middle-income stage.

[4] An economy is industrialized if any 7-year moving average of manufacturing shares in output and employment are at least 18% each (Asian Development Bank, 2013).
[5] A country is deindustrialized if the difference between the maximum manufacturing shares of the series and the average during the last decade is at least 5% points (Asian Development Bank, 2013).
[6] It is noted that, according to the definition of Asian Development Bank (2013), in terms of output, South Korea has not deindustrialized, while Taiwan has deindustrialized but its output share has been on increasing trend in recent years. To some extent, this implies these two economies experienced industrial upgrading towards higher value-added activities.

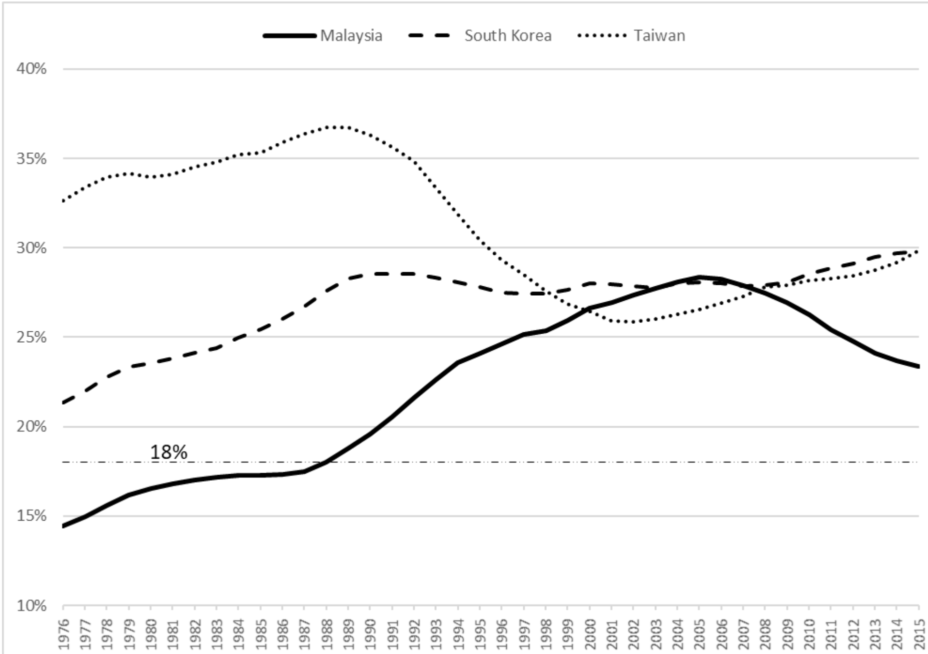

Figure 3A Manufacturing output share (7-year moving average)

Source: Author; data from Asian Productivity Organization (2020)

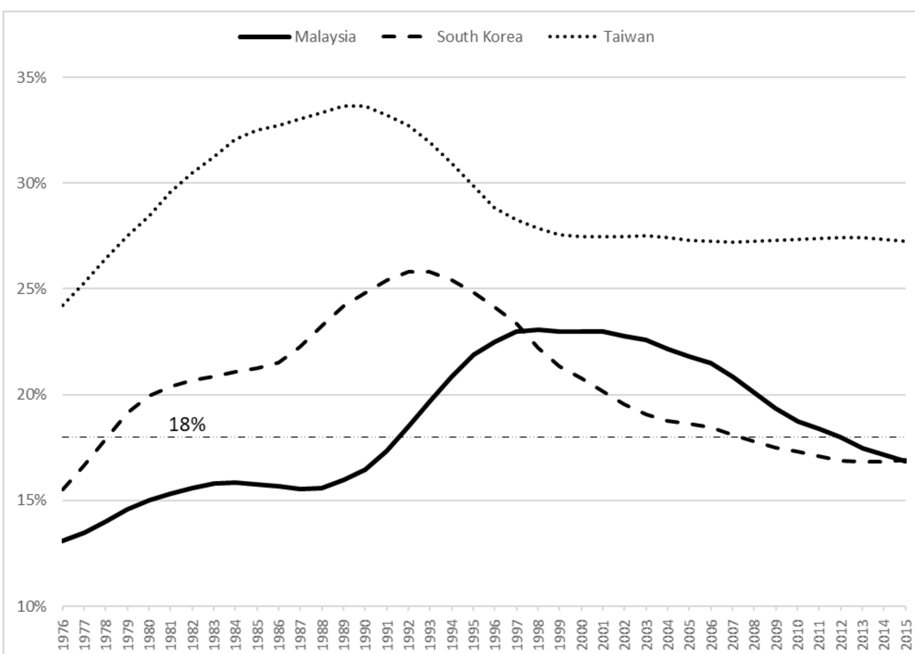

Figure 3B Manufacturing employment share (7-year moving average)

Source: Author; data from Asian Productivity Organization (2020)

To better quantify the contribution of structural change to Malaysia's growth, the shift-share analysis, which decomposes labor productivity growth into two sources, within effect and between effect (or structural change effect), is conducted.[7] The within effect captures within-sector productivity improvement, which is driven by capital deepening, technological progress, or reduction of misallocation across plants, while the between effect captures the reallocation of employment among sectors (McMillan & Rodrik, 2011). The shift-share analysis for the two sub-periods of Malaysia's middle income in comparison with South Korea and Taiwan is presented in Table 2. The following findings stand out. First, compared to South Korea and Taiwan, Malaysia experienced a significant gap in labor productivity growth of 2%-2.5% points in lower-middle income and of 3.4%-4.5% points in upper-middle income, indicating a clear trend of relatively low labor productivity improvement in the latter period. Second, structural change played a marginal role in driving labor productivity growth of Malaysia throughout the middle-income transition, especially in lower-middle income when it is expected to play a more significant role. Third, the manufacturing sector of Malaysia, a key player of industrialization along the middle-income stage, contributed less than 1% point of within-sector effect to the overall labor productivity enhancement, which was significantly lower than the respective contributions of South Korea and Taiwan.

[7] See, for example, Timmer and de Vries (2009) and Vu (2017) for the methodology.

Table 2 Contribution of structural change to labor productivity growth in middle-income stage: Malaysia vs. South Korea and Taiwan

Table 2 Contribution of structural change to labor productivity growth in middle-income stage: Malaysia vs. South Korea and Taiwan

	Panel A: Measured in % points						Panel B: Measured in contribution share (Economy's ALP growth = 100)					
	Malaysia		South Korea		Taiwan		Malaysia		South Korea		Taiwan	
	Lower-middle income	Upper-middle income	Lower-middle income	Upper-middle income	Lower-middle income	Upper-middle income	Lower-middle income	Upper-middle income	Lower-middle income	Upper-middle income	Lower-middle income	Upper-middle income
	1970-1996	1996-2015	1970-1988	1988-1995	1970-1986	1986-1993	1970-1996	1996-2015	1970-1988	1988-1995	1970-1986	1986-1993
Economy	**4.54**	**2.32**	**6.55**	**5.72**	**7.06**	**6.83**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Within effect	***4.51***	***2.04***	***5.12***	***4.82***	***5.39***	***5.95***	***99.3***	***89.3***	***78.2***	***84.3***	***76.4***	***87.1***
Agriculture	0.73	0.32	1.05	0.47	0.60	0.29	16.0	16.6	16.1	8.2	8.5	4.3
Mining	0.61	0.16	0.05	0.26	0.06	0.09	13.5	7.3	0.8	4.5	0.8	1.3
Manufacturing	0.95	0.85	1.26	2.05	2.01	1.72	20.9	32.8	19.3	35.9	28.4	25.2
Utilities*	0.13	0.08	0.21	0.03	0.25	0.13	2.8	2.5	3.2	0.6	3.5	1.9
Construction	0.25	-0.01	0.21	0.36	0.14	0.24	5.5	1.1	3.2	6.3	2.0	3.5
Services**	1.84	0.64	2.33	1.65	2.33	3.48	41.3	39.7	57.4	44.5	56.7	63.8
Trade, hotels and restaurants	0.71	0.20	0.74	0.07	0.65	0.95	15.7	8.6	11.3	1.2	9.3	13.9
Transport, storage and communications	0.19	0.27	0.38	0.38	0.25	0.28	4.2	11.7	5.8	6.7	3.6	4.2
Finance, real estate and business services	0.48	-0.13	0.60	0.56	0.37	0.97	10.6	-4.8	9.2	9.9	5.2	14.2
Community, social and personal services	0.45	0.31	0.60	0.63	1.06	1.27	10.0	13.5	9.2	11.0	15.0	18.6
Between effect	***0.03***	***0.28***	***1.43***	***0.90***	***1.67***	***0.88***	***0.7***	***10.7***	***21.8***	***15.7***	***23.6***	***12.9***

*Note: *Utilities comprise electricity, gas and water supply; **Services is aggregated from four industries: Wholesale and retail trade, hotels and restaurants; Transport, storage and communications; Financial intermediation, real estate, renting and business activities; and Community, social and personal services.*
Source: Author's calculation; data from Asian Productivity Organization (2020)

With regard to manufacturing, the structural transformation of this sector in Malaysia was mainly driven by the high tech sector, while the medium and low tech sectors changed marginally especially with respect to GDP share.[8] As shown in Table 3, over the last decade of the 20th century, the high tech sector, almost represented by the ICT hardware industry, expanded 6.4% points (from 4.5% to 10.9%) in terms of GDP share, while the decline of -1.4% points of the low tech sector was offset by the gain of 1.3% points of the medium tech sector. Similarly, the high tech sector gained 40% points in terms of exports as a percentage of GDP over the same period, while the medium tech sector expanded moderately and the low tech sector decreased slightly. The first 15 years of the 21st century witnessed the opposite trend for the high tech sector as it declined subtaintially almost to the position it held in 1990. The low tech sector also shrank slightly in the two measures, while the medium tech sector maintained its GDP share and expanded its exports. As changes of agriculture and mining in merchandise exports were small, the primary driver of Malaysia's merchandise exports was the manufacturing with the lion's share of 80%-90%, which was in turn dependent largely on the ICT hardware industry. That is, Malaysia might not have diversified its manufacturing advantages enough for sustaining its exports amidst the intense global competition.

Table 3 Malaysia's manufacturing sector in GDP and exports

	GDP share					Exports as % of GDP				
	1990	**1996**	**2000**	**2010**	**2015**	**1990**	**1996**	**2000**	**2010**	**2015**
Manufacturing	22.9%	26.1%	29.2%	23.7%	22.6%	47.8%	67.7%	94.2%	66.8%	58.1%
High tech	4.5%	7.4%	10.9%	6.6%	5.3%	20.0%	37.2%	60.6%	28.8%	22.5%
Medium tech	11.2%	12.4%	12.5%	12.3%	12.5%	11.5%	15.6%	19.7%	24.6%	25.1%
Low tech	7.2%	6.3%	5.8%	4.7%	4.8%	16.3%	14.9%	13.9%	13.4%	10.5%

Note: The values of GDP share of the high tech sector include electrical machinery and apparatus.

Source: Author's calculation; data from Asian Productivity Organization (2020) and WITS (2020)

The above observations about Malaysia's manufacturing are consistent with Rasiah (2011) and Rasiah et al. (2015), which claimed that the country indeed faced premature deindustrialization with a declining trend in manufacturing value-added and trade performance in the 2000s. Rasiah also pointed out that manufacturing's labor productivity slowed down, with the key industries such as electric-electronics, textiles and transport equipment experiencing either

[8] The categorization of manufacturing goods by technology level follows the definition of OECD (2011).

negative or low productivity growth after 2000. This pattern of structural change is a worrying signal for Malaysia as labor seemed to shift from agriculture and manufacturing to low-productivity services, which might deteriorate the growth of the economy-wide labor productivity (Rodrik, 2016). The recent data shows that labor productivity growth of the two backbone sectors of the economy – manufacturing and services – stagnated at about 2% since the GFC (Figure 4). More importantly, Malaysia seemed to have not fully developed its manufactruring capabilities which facilitate robust structural change and industrial upgrading. As a piece of evidence, though ICT hardware was the most important driver of Malaysia's merchandise exports (accounting for 35%-55%), its share of domestic value-added in export value was far lower than those of the two Asian Tigers (Figure 5). That is, the country seemed to lack the capabilities enabling it to participate in higher value-added activities of the value chain of this product.

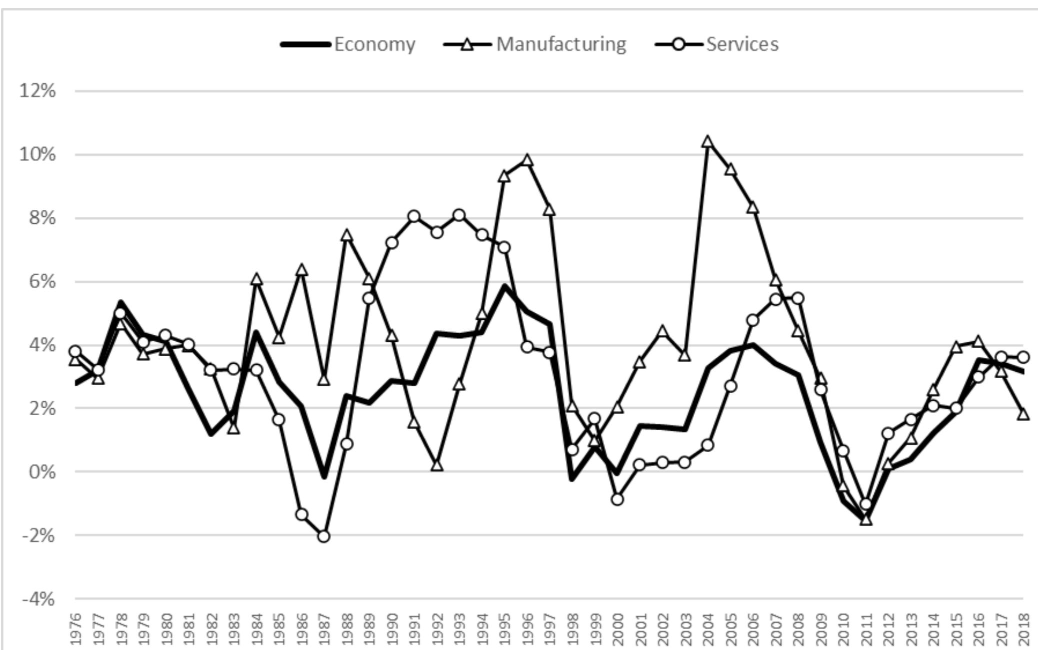

Figure 4 Malaysia's labor productivty growth (3-year moving average)

Source: Author; data from Asian Productivity Organization (2020)

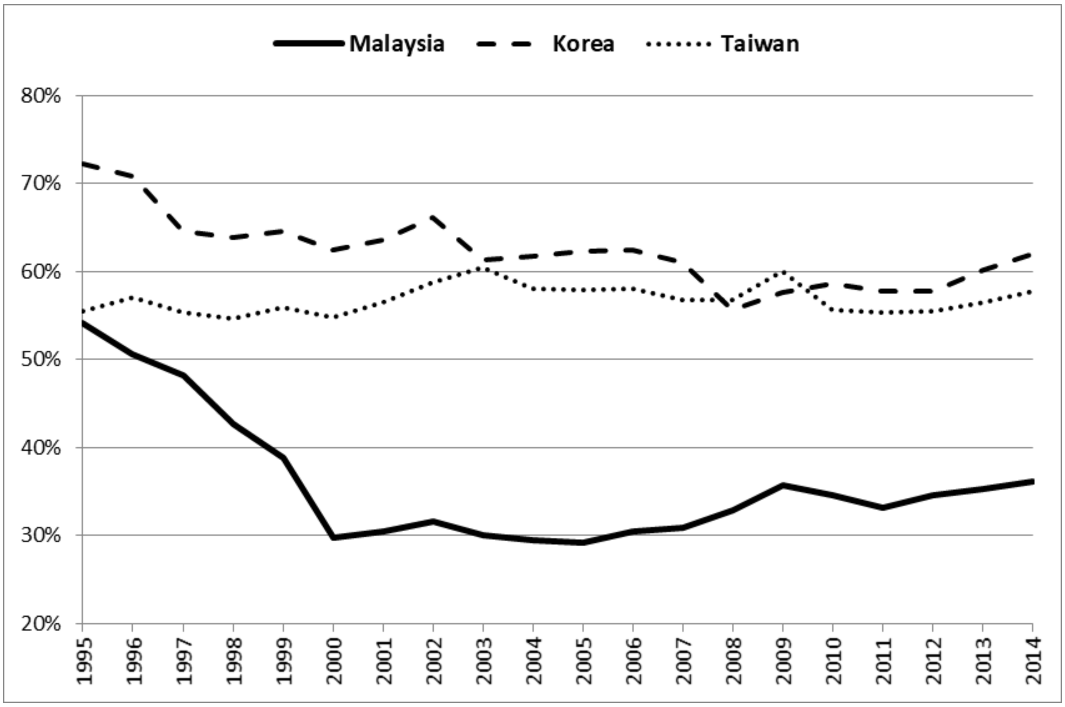

Figure 5 Share of domestic value-added in exports of ICT hardware products

Source: Author, data calculated from OECD (2016)

Sources of growth approach

Another way to assess the performance of the Malaysian economy is to look into its sources of growth. Adopting the growth accounting framework, GDP growth can be simply decomposed into the growth of hours worked and average labor productivity (ALP). GDP can also be decomposed into the contribution of capital input, labor input (hours worked and labor quality) and total factor productivity (TFP) (Jorgenson et al., 2003; Vu, 2013). The decomposion exercise is conducted using data from the Conference Board Total Economy Database, and results are reported in Table 4A.

Malaysia's growth drivers, in general, were similar to those of the two Asian Tigers during the lower-middle-income stage. All three economies experienced strong employment expansion, countributing over 3% points to GDP growth of above 7%. Malaysia's labor productivity improvement, however, underperformed by about 1% points, which mainly explained the gap of over 1% points in GDP growth between Malaysia and the two Tigers (Table 4A, Panel A). More specifically, capital accumulation was the dominant driver, especially for Malaysia and South Korea with a contribution of over 6% points. Labor input followed, contributing about 2% points, of which Malaysia's labor quality enhancement was significant. In contrast to Taiwan with 1% point of TFP improvement, both Malaysia and South

Korea experienced TFP deterioration of over 0.6% points over this stage (Table 4A, Panel B). It can be said that Malaysia and South Korea had similar growth drivers during the lower-middle-income stage, with South Korea having stronger capital accumulation.

The upper-middle-income stage witnessed the decline in growth of all three economies, but Malaysia experienced a steep drop of nearly 3% points compared to less than 1% point of the two Tigers (Table 4A, Panel A). During this stage, while Malaysia still maintained employment growth of 2.5% higher than those of the two Tigers, its ALP growth decreased by a half to 2%, making a gap of about 4% points in ALP growth with the two Tigers.

The revealed sources of growth indicate that, while the decreased contribution of labor input was offset by less negative TFP growth, Malaysia's drop in GDP growth was almost due to the reduced contribution of capital input, resulting in a gap of 2% points with South Korea and nearly 1% point with Taiwan in this measure. This was caused by the steep decline in investment in Malaysia after the AFC, which will be discussed more in Section 4. It is also noted that, while TFP growth made remarkable contribution to the two Tigers' growth (1.3% points for South Korea and 2.1% points for Taiwan), Malaysia continued its negative TFP growth, though less severe, in this latter stage (Table 4A, Panel B).

Regarding the TFP deterioration of Malaysia in both lower- and upper-middle-income stages, one may argue that the negative TFP growth might be attributed to the major shocks the economy experienced in 1985-1986, 1997-1998 or 2007-2008, and may not fully reflect the efficiency improvement and technological progress of the economy in normal condition. However, Table 4B, presenting the sources of growth during high performance periods without shocks, indicates that the contribution of TFP to Malaysia's growth was modest and far below those of the two Tigers. This implies TFP enhancement played an insignificant role during Malaysia's middle-income transition.

Table 4A Sources of GDP growth during middle-income stage

		Panel A			Panel B				
		GDP Growth (%)	Hours Growth (%)	ALP Growth (%)	Sources of GDP Growth (% points)				
					Capital Input	Labor Input			TFP
						Total	Hours	Quality	
Malaysia	Lower-Middle (1969-1996)	7.35	3.45	3.89	6.28	1.72	1.30	0.43	-0.66
	Upper-Middle (1996-2015)	4.44	2.47	1.97	3.30	1.29	0.88	0.41	-0.16
South Korea	Lower-Middle (1969-1988)	8.45	3.68	4.77	7.03	2.04	1.76	0.28	-0.63
	Upper-Middle (1988-1995)	7.96	2.03	5.92	5.36	1.35	1.13	0.22	1.25
Taiwan	Lower-Middle (1967-1986)	8.66	3.22	5.44	5.47	2.14	1.80	0.34	1.06
	Upper-Middle (1986-1993)	7.90	1.74	6.16	3.98	1.77	1.05	0.72	2.15
Gap between Malaysia and two Tigers									
with South Korea	Lower-Middle	-1.10	-0.22	-0.88	-0.75	-0.32	-0.47	0.15	-0.03
	Upper-Middle	-3.52	0.44	-3.96	-2.05	-0.06	-0.25	0.19	-1.41
with Taiwan	Lower-Middle	-1.32	0.23	-1.55	0.81	-0.41	-0.50	0.09	-1.72
	Upper-Middle	-3.46	0.73	-4.19	-0.68	-0.48	-0.17	-0.31	-2.31

Source: Author's calculation; data from The Conference Board (2017)

Table 4B Sources of GDP growth during high performance period

		Panel A			Panel B				
		GDP Growth (%)	Hours Growth (%)	ALP Growth (%)	Sources of GDP Growth (% points)				
					Capital Input	Labor Input			TFP
						Total	Hours	Quality	
Malaysia	(1987-1996)	9.03	3.90	5.13	6.61	2.01	1.47	0.54	0.42
South Korea	(1982-1991)	9.24	2.34	6.90	5.11	1.45	1.24	0.21	2.68
Taiwan	(1982-1989)	8.78	2.51	6.27	3.33	2.01	1.48	0.53	3.44

Source: Author's calculation; data from The Conference Board (2017)

Wye and Ismail (2012) tracking Malaysia's sources of growth at industry level over a long period from 1972 to 2005 also noted that the role of TFP is less prominent, especially in economically significant services such as health, education, and professional. Ahmed (2009) examining the Malaysian manufacturing sector in 1970-2001 showed that labor productivity of the sector experienced a low growth trend associated with the declining contribution of TFP. Ahmed also posited that productivity growth of the manufacturing sector was input-driven rather than TFP-driven. This trend was unhealthy for Malaysia because the advancement of labor quality, reflecting the capabilities of the labor force, and of TFP, to large extent capturing the technological capabilities and efficiency of the economy, plays decisive roles in boosting productivity growth particularly when the economy progresses to higher income with already high level of capital accumulation.

Discussion on the causes of Malaysia's middle-income trap

This section provides an in-depth discussion on the causes of Malaysia's sluggish growth, continuing the analysis in Section 3. Before that, it is necessary to understand the overarching institutional setting – the New Economic Policy (NEP) – that shaped the long-term development journey of Malaysia.

The Malaysian government introduced the NEP in 1971 in response to the 1969 ethnic riots, with affirmative action policies in favor of the majority Bumiputera (Malays and indigenous ethnics) who were at economically disadvantageous position compared to the Chinese and Indian. While targeting poverty reduction for the general population, the NEP aimed at eliminating economic disparity between the Bumiputera and other ethnics by addressing the concerns of the former about employment, income distribution, and ownership of wealth, and promoting the formation of a Bumiputera commercial and industrial community. The NEP set the target of raising Bumiputera corporate ownership to 30%, reducing corporate ownership by other ethnics to 40%, and capping foreign ownership at 30% by 1990 (Webster, 2014).

Under the NEP, the Bumiputera were entitled to many privileges in a wide range of areas. They were reserved for large shares of quotas for public sector jobs and university admission, while the Bumiputera businesses were given priorities including access to government contracts. The NEP required private companies to reserve at least 30% of their shares and employment, including manager positions, for the Bumiputera. For manufacturing activities, private firms in this sector were subjected to getting government licenses in line with the NEP, which required the companies at certain size to comply with the minimum 30% rule of Bumiputera reservation in terms of equity, employment, board of directors, and distributor appointment. Conforming with the rule ensured not only the legal operation but also the access to formal government incentives, government contracts and participation in exports. Most of the policies under the NEP, which officially ended in 1990, continued in subsequent national policy programs and had significant effect on Malaysia's long-term performance. Though these policies have promoted equity and political stability conducive to development, to a certain extent they might have hindered growth (Tan, 2014).

The distortions resulted from the discriminatory policies are believed to have stunted investment, and thus growth, of Malaysia (Menon, 2014). The Bumiputera quota on ownership structure disincentivized successful Chinese

Malaysian firms to expand their production to avoid the NEP's restrictions or drove them to move their headquarters to foreign lands (Woo, 2009). According to Henderson and Phillips (2007), successive Malaysian governments used this measure to limit capital accumulation among wealthy Chinese Malaysian and contain their influence on the economy. Consequently, unlike the Taiwan case, very few Malaysian firms were able to transform from import substituting goods producers to major exporters of these goods (Woo, 2009).

The second factor that hindered investment of both domestic and foreign investors was the crowding out from the heavy presence of government-linked corporations (GLCs) characterized with close ties to government agencies, opaque operation and lack of pressures for upgrading (Menon, 2014; Hill et al., 2012; Gomez, 2012; Woo, 2009). These GLCs held dominant role in many key industries, including utilities (93% in terms of market share), transportation and warehouse (80%), agriculture, banking, communication, and retail trade (over 50%). Menon (2014) argued that, as most of these industries are neither strategic nor natural monopolies, the heavy presence of GLCs could not be economically justified. Menon and Ng (2013) also evidenced that the GLC's share of 60% or higher in an industry would discourage private investment in that industry.

Though the two discouragements had existed for long, the outbreak of AFC was indeed a critical juncture, which exacerbated the situation and fundamentally changed the course of investment and growth of Malaysia. In fact, the private investment flow – both foreign and domestic – into the economy declined sharply after AFC and the trend persisted until recent years. As shown in Figure 6, while public investment remained stable at around 10% of GDP, private investment dropped 15%-20% points, from about 25%-30% before the crisis to around 10% after that, which cut total investment flow by nearly a half from about 40%-45% to 20%-25% of GDP. This explains the fall in the contribution of capital input to GDP growth during Malaysia's upper-middle-income stage as pointed out in Table 4A.

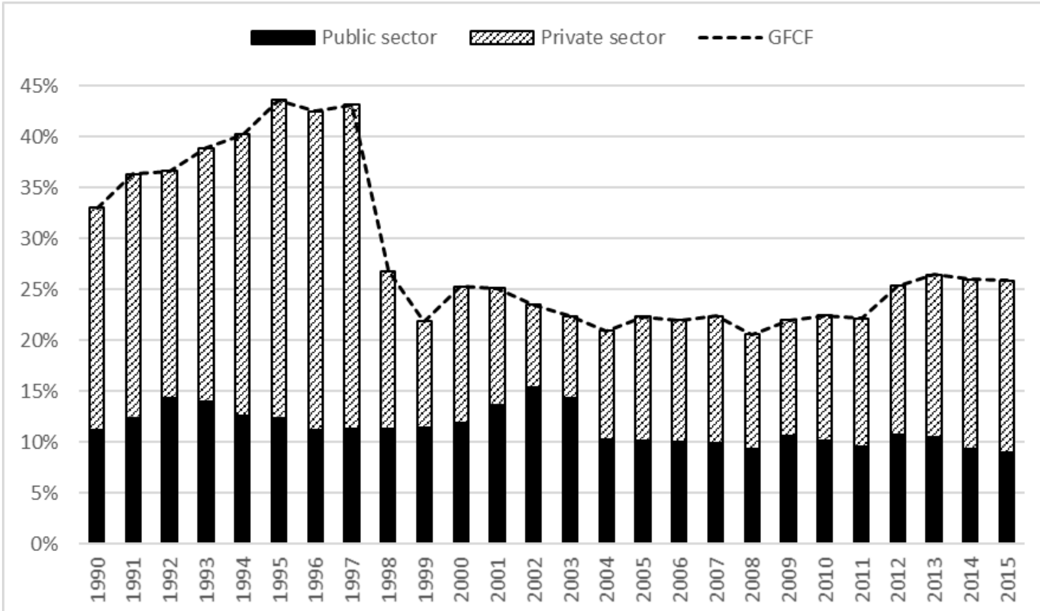

Figure 6 Malaysia's gross fixed capital formation as a percentage of GDP, 1990-2015

Source: Author; data from World Bank (2020)

The dynamics of financial flows may provide some hints of the causes of declining private investment in Malaysia in the recent period. The FDI inflow of Malaysia decreased significantly after the AFC, and only resumed the 1997 level in 2006 in absolute terms and continued to increase in subsequent years, with a fall in 2009 due to the GFC. As a percentage of GDP, however, the inflow after 2000 was only 3%-4%, well below the level of 6%-8% during 1990-1997. The FDI outflow also plunged during 1998-2003 but rebounded strongly with a record high of 6.5% in 2008 and maintained at 4%-5% in subsequent years, compared to about 2%-3% before AFC (Figure 7). The combination of the decline in FDI inflow and the rise in FDI outflow obviously led to investment contraction, but it might only account for a small part of the fall of private investment (10%-15% of GDP) after AFC. A more persuasive explanation in this vein could be the massive outflow of illicit capital from both foreign and domestic investors, making Malaysia the third among the top ten in the world (after China and Mexico) and the second among the top five in Asia (China, Malaysia, the Philippines, India, and Indonesia), despite its modest population (Menon, 2014). The flow was estimated to range from US$12.5 billion to US$64.4 billion per annum, accumulating to US$285 billion for 2001-2010 (Kar & Freitas, 2012). The figure was as significant as 80% of gross fixed capital formation and 18% of GDP of Malaysia, on average, during this period. According to the Global Financial Integrity, the underlying drivers included generic structural and governance issues such as political instability, rising income inequality, and pervasive corruption, and, in particular, the significant discrimination in Malaysia's labor market, which motivated the move of people and unrecorded capital out of the economy (Kar & Curcio, 2011).

In short, it is believed that the distorted business environment due to discriminatory policies and GLCs' crowding-out have long discouraged private investment. And the eruption of the AFC associated with macro uncertainties exacerbated the situation, creating pervasive pessimism among investors about the country's economic prospects. All these factors not only discouraged the inflow of foreign investment but might also have triggered the wave of domestic and foreign investors to relocate their capital through formal and informal channels to foreign lands where they found more favorable environment and better business opportunities.

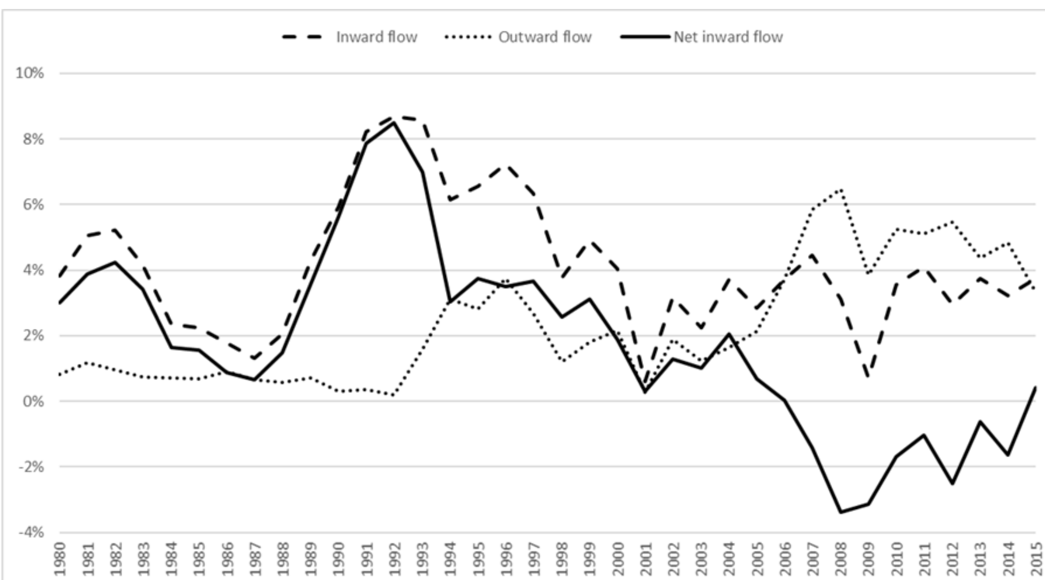

Figure 7 Malaysia's FDI flows as a percentage of GDP, 1980-2015

Source: Author; data from UNCTAD (2017)

Underlying the weak investment associated with the less favorable macro conditions of the Malaysian economy is a more structural issue – slow industrial upgrading, which involves the promotion of quality human capital, innovation, and the spillover effect on the indigenous sector.

Regarding human capital development, Malaysia has achieved significant progress, with mean years of schooling of adults improving from four to ten over the past three and a half decades. But the problem of Malaysia might lie on skill acquisition, not general education. Empirically, Asian Development Bank (2008) revealed from a survey in 2003 that manufacturers in Malaysia pointed to inadequate skilled workers as the top obstacle for doing business. The root cause of the problem might not be the lack of education expenditure or universities and colleges, but quality, access and recruitment constraint. Besides the race for quantity of training institutions at the expense of quality, there was also a mismatch between the skills generated in local vocational and higher education institutions and the demand of the labor market (Fleming & Søborg, 2014; Menon, 2014; Hill et al., 2012). The race-based quota system granted entry to post-secondary education in favor of the Bumiputera might have excluded many more qualified candidates or included unqualified ones, resulting in suboptimal allocation (Lee & Nagaraj, 2012). This discriminatory policy was also applied for recruitment, which motivated not only oversea students of Chinese and Indian ethnics to stay abroad but also local professionals of these communities to look for better opportunities in foreign countries. This made Malaysia a net exporter of skills, though hosting a huge amount of unskilled migrant labor accounting up to a quarter of its workforce (Rasiah et al., 2015). Malaysia has been in urgent need of education reforms, but the division among the ruling coalition and the strong party-state merger remained a formidable political challenge for such reforms (Fleming & Søborg, 2014).

With respect to innovation, the government has put effort to upgrade the country's innovation capabilities, but the results seemed to be far below expectation. In terms of R&D investment, it seems that Malaysia did not spend sufficiently especially in its early years of middle income. While the lack of data on R&D expenditure before 1996 does not facilitate a comparison with advanced economies at comparable stages of development, it is observed that, when turning into high income, this spending as a percentage of GDP of South Korea (2.24% in 1996) was significantly higher than that of Malaysia (1.3% in 2015), which suggests South Korea's R&D investment was much stronger than Malaysia's during their middle-income transitions (Table 5).

The available data also indicates that Malaysia considerably trailed China (and even India in early years) on R&D investment despite its higher income level. When Malaysia attained upper-middle-income status in 1996, its R&D expenditure was only 0.22%, which suggests the spending was even smaller in its lower-middle-income years. In contrast, the figure of China was 0.56% in 1996 and rose rapidly to 1.37% in 2006 to 2.07% in 2015. Malaysia only speeded up its R&D spending in the recent decade, from 0.61% in 2006 to 1.3% in 2015 (Table 5). The gap in R&D expenditure between the two economies may explain to some extent the gap in R&D outcomes as evidenced by the number of patent and industrial design applications in Figure 8.

Table 5 Research and development expenditure as a percentage of GDP

	1996	2000	2006	2010	2015
Japan	2.69	2.91	3.28	3.14	3.28
South Korea	2.26	2.18	2.83	3.47	4.22
Singapore	1.32	1.82	2.12	1.93	2.18
China	0.56	0.89	1.37	1.71	2.07
Malaysia	0.22	0.47	0.61	1.04	1.30
Thailand	0.12	0.24	0.23	0.36[a]	0.62
India	0.64	0.76	0.80	0.79	0.69

Note: [a]in 2011; Source: World Bank (2020)

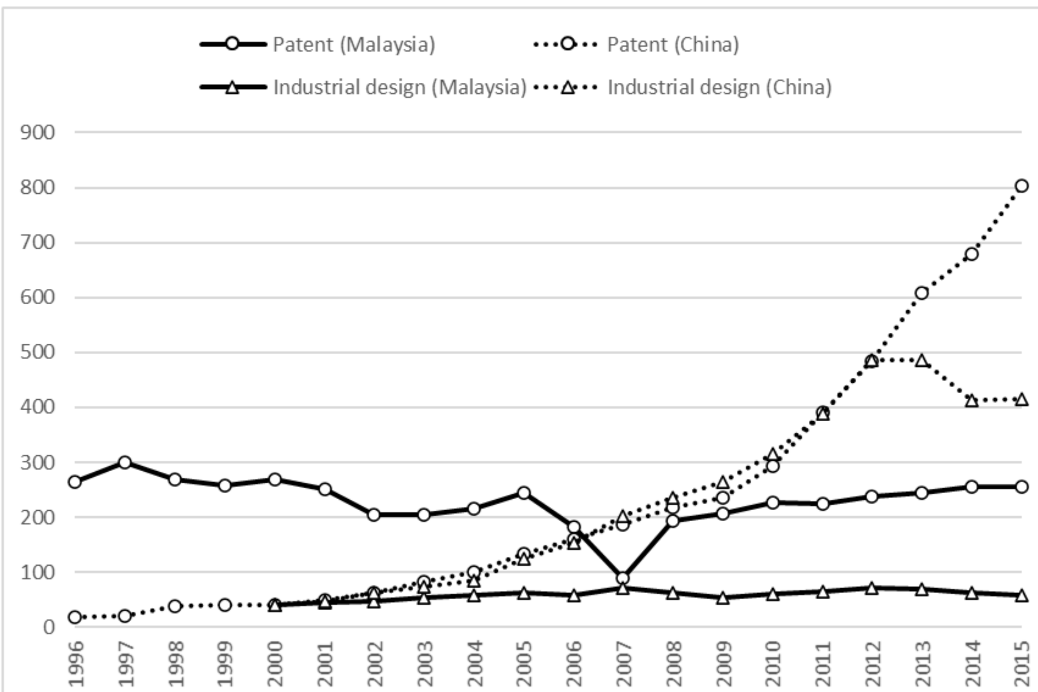

Figure 8 Number of patent and industrial design applications (per one million population)

Source: Author; data from World Bank (2020)

The weakness of Malaysia's innovation capacities has the root in the slow building of a culture of excellence and innovation as accomplished by South Korea and Taiwan (Yusuf & Nabeshima, 2009a). This culture underlined the importance of STEM (science, technology, engineering, and math) education, skill acquisition, and R&D, which shaped the orientation of vocational and tertiary training institutions, research centers, as well as business sector. The strategy, materialized through government's tangible incentives, not only enhanced the quality of the labor force but also promoted innovation in line with the market demand, which was crucial for retaining competitive edge and fostering structural transformation. In Malaysia, the regulatory environment influenced by the NEP has hindered the competition among universities, which undermined the efforts to enhance the quality of teaching and research (Lee & Nagaraj, 2012). In the business sector, while the GLCs had little incentive to engage in innovation, it is unexpected that most local private firms and multinational corporations (MNCs) only conducted R&D marginally. For instance, only 1% of the total electronics MNCs conducted design and R&D activities in 2007 (Rasiah et al., 2015).

One reason was the market structure with major conglomerates dominating the industrial landscape, which dampened competition, raised entry barriers for new firms with creativity, and discouraged the innovation initiatives of existing ones. For the MNCs, the influx of cheap migrant workers guaranteed the profitability of their labor-intensive assembly activities, which relaxed the pressure of upgrading, particularly risky R&D activities amidst the lack of necessary conditions such as quality human resources (Yusuf & Nabeshima, 2009a; Rasiah et al., 2015). In addition, ineffective vertical industrial policies that supported selective industries might discourage innovation activities. As noted by Otsuka and Natsuda (2016), in the automotive industry, the government provided strong backing for the national producers Proton and Perodua but not the local parts and components manufacturers. With orientation to the domestic market, these producers had less incentive to innovate and mainly focused on assembly of imported materials, failing to become even regional brands. At the same time, local parts and components manufacturers missed the opportunity to upgrade their capabilities to participate in the automotive value chain.

The upgrade of the domestic firms' capabilities and strengthening their linkages with the FDI sector remained a key challenge of Malaysia. While the goal of FDI policy was to seek spillovers for skill development and technology transfer, the interaction between the FDI sector and the rest of the economy has been modest at best. FDI firms in the electronics industry in Penang, for instance, engaged primarily in low value-added activities facilitated by abundant low-skilled migrant workers largely from Indonesia with limited demand for local technicians and engineers (Henderson & Phillips, 2007). Yusuf and Nabeshima (2009b) posited that though there existed some diffusion of knowledge and skills from labor turnover at the MNCs to the local economy and linkages with local suppliers mostly for low-tech products, the expected outcomes on increased local value-added, technological upgrade, and new start-ups were not achieved. They also argued that both sides faced obstacles that hindered the promotion of the linkages. On the one hand, partnering with local suppliers requires the MNCs to bear high transaction costs for cultivating them, which might not be preferable to the option of maintaining a small number of competent suppliers. On the other hand, new suppliers usually lack necessary capabilities and are subjected to high costs for developing products, marketing to MNCs and getting certifications. Therefore, only few domestic firms were able to meet the requirements to enter the MNCs' value chains. At best the Malaysian domestic firms could only become second- or third-tier suppliers of less sophisticated parts and components.

The Malaysian government have been ineffective in urging the MNCs to adjust their business model to the one that engages in more R&D activities and partners more with local suppliers as long as the existing one remained satisfactorily profitable. The main reason was that the government worried, amidst the intense competition on FDI attraction, MNCs would move away if the rules requiring local sourcing were strongly enforced (Yusuf & Nabeshima, 2009a).

Conclusion and policy implications

This paper comprehensively reviews the literature on middle-income trap, a phenomenon observed for many middle-income countries that failed to transition from middle to high income, and reflects upon the case of Malaysia's middle-income transition with the aim of drawing relevant policy implications. The literature reveals that the investment slowdown often occurring at middle-income due to several factors, including deteriorated competitiveness of labor-intensive industries associated with rapidly rising wages, may significantly hinder growth. This is usually coupled with the lack of necessary conditions of quality human capital and technological capabilities, which hampers the structural transformation toward higher value-added activities. These factors, however, are usually affected by the underlying context-specific institutional constraints. Unfortunately, radical reforms for upgrading the necessary conditions for boosting growth require the pro-upgrading political coalitions that may be often unavailable in middle-income nations.

Malaysia achieved remarkable growth during its lower-middle-income transition, compared to the two sizeable Asian Tigers – South Korea and Taiwan. The country was "trapped" in its upper-middle-income years, which was marked by the eruption of the AFC as the turning point altering the course of Malaysia's development. The slowdown was driven by the consistent decline in private investment, resulted primarily from the outflow of capital besides the decrease in inward FDI. The outbreak of the AFC associated with macro uncertainties somehow led to pervasive pessimism among investors about the economic prospects, which triggered the relocation of capital to foreign lands. This was coupled with the long-lasting unfavorable business environment due to discriminatory policies in favor of the Bumiputera and the crowding-out of GLCs. Throughout its middle-income years, the economy consistently faced many structural problems, including sluggish TFP growth, relatively modest structural change, slow industrial upgrading as well as premature deindustrialization. These had root in the slow upgrade of human capital, innovation and indigenous capacity, and the ineffective exploitation of spillovers from the FDI sector.

Malaysia may not expect its private investment to recover to the level as high as in the pre-AFC period. Therefore, while it is always necessary to improve the business environment for attracting investment, particularly eliminating the market distortions as mentioned above, the growth drivers should shift to enhancing the quality of labor force and TFP. The country needs more radical reforms especially in building quality human capital, technological capabilities and indigenous capacity. These reforms are expected to be tough given Malaysia's political conditions, requiring the mobilization of pro-upgrading coalitions as Doner and Schneider (2017) suggested.

The reflection upon the case of Malaysia's middle-income transition suggests the following policy implications for low and lower-middle-income nations, especially those of the ASEAN region engaging with the East Asian FDI- and export-led model.

First, the top priority requiring persistent efforts is to continuously upgrade the fundamentals for economic development, including human capital, innovation capabilities and indigenous capacity, which enables to sustain healthy structural transformation to higher value-added activities and effectively exploit the spillovers from and integrate with the FDI sector.

Second, regarding the institutional and political settings, besides the stability in general, it is always necessary to build pro-upgrading coalitions for formulating and implementing policies to support the upgrade of the fundamental factors. While often remaining a challenge for traditional democracies to come to consensus for upgrading efforts, it is indeed an advantage for authoritarian states like Vietnam if they are able to proactively democratize and build consensus for upgrading policies that would enable the country to speed up its structural reforms and economic catch-up.

Third, it is essentially important to build a conducive business environment that guarantees a fair playing field for all stakeholders – be it state-owned, private, or foreign sector. While ensuring sufficient support for the FDI sector, it is crucial to effectively nurture the indigenous sector, which requires deliberate strategies to promote its technological capabilities and integration with the FDI sector and the world economy.

Finally, the governments have to be prepared for managing unforeseen shocks and resilience, which is decisive to maintain the optimism of the public and the domestic and foreign investors about the economic prospects of the nations. The recent military coup in Myanmar, the increasing risk of military conflict in the East Sea (South China Sea) facing Vietnam, or the recent global Covid-19 pandemic may disrupt the countries' growth momentum and change the course of their economic development if their leaderships do not take enough sound actions.

Policy makers in low and lower-middle-income nations like those of ASEAN region should pay strategic attention to all these issues from the early years of their economic catch-up endeavors in order to overcome unforeseen shocks and maintain sufficient growth momentum for successfully managing the middle-income transition.

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INVESTIGATING THE FACTORS EFFECTING SERVICE QUALITY UNDER LEAN IMPLEMENTATION WITHIN COMMERCIAL AIRLINES INDUSTRY IN THAILAND

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Abstract

Lean has been widely adopted in organizations as the strategy for attaining the equilibrium between quality, productivity, cost, profitability and customer's contentment with proven result from a number of business improvement engagement. This research aims primarily to investigate the factors effecting service quality under Lean Implementation within the major commercial airlines industry in Thailand. Based on extant literature, six main factors are of processes, planning and control, HR, top management and leadership, customer relations and supplier relations. Through the interviews conducted with airlines practitioners, the employee engagement is considered another additional factor affecting the effectiveness of Lean implementation. In total, 400 questionnaire survey were gathered from four commercial airlines implemented lean as part of strategic improvement initiatives. The findings indicated that there are significant positive relationships of HR, top management & leadership, process, planning & control, customer relations, supplier relations, and employee engagement toward the overall service quality of Airlines.

Introduction

Following the report of UNWTO (2011), more than half of all international tourists arrived at the destination through air transport, in which the growth of air transport which is the major element of civil aviation is naturally connected to the enlargement of tourism industry. The majority of international air passengers are travelling for the purpose of leisure or professional tourism mainly, and thus the aviation is key success for domestic tourism development in many countries (UNWTO, 2011). Further, air transportation has become the key component for global economic development. Together with tourism industry when taking all direct, indirect and convinced effect into account, it is representing the single importance economic sector (Oxford Economics, 2012). Thailand's airport capability is the third biggest in the ASEAN region after only Singapore and Malaysia (ICAO, 2013). Airport of Thailand (AOT) forecast that in the year 2015, AOT will serve more than 56 million passengers in response to growing demand from tourism sector.

AOT (2014) reported that revenues of Thailand's aviation business in 2013 was THB260 billion, which contributed mainly by low cost airline and full service airline for approximately THB35 billion and THB224 billion, respectively. Since 2009-2013, the average overall revenues from over Thai airlines had grown by 9.1% with the majority of growth from low cost airlines, whose average revenues growth was 31.5 percent; while the full service airline revenue growth was only 6.9 percent. From this percentage of total revenue, showing that low cost airlines has been increasing in market shares. Though full service airline presently govern the market share but market share of low cost airlines are now growing quickly and cultivating the market share from the main players in other segment.

This research aims to provide a guideline for the overall commercial airline industry in Thailand focusing on the service quality improvement under Lean implementation, and to overcome the barriers that act as obstruct in the Lean implementation within major commercial airline industry in Thailand. Additional, the overall service quality under Lean framework can be used for any airline industry, irrespectively of location, as it consolidates all Lean requirements. Moreover, the findings of this research can further offer comprehension into ASEAN Airlines Industry in general and particular, as most of ASEAN countries share similar features, exceptionally with consider to external factors. Finally, the Lean operation framework can be used as a checklist for managers who want to consider in implementing service quality assurance under Lean in the future or to prepare for Lean readiness, as it will empower them to learn whether the organisation meets the essential for implementing Lean, as suggested by Al-Najem (2014).

Literature review

Lean operation

Lean is described as a rule of optimization methodology that focuses on improving the efficiency and effectiveness of a process by eradicating activities that do not add value to the customers (Jones and Mitchell, 2006). Lewis (2000) argued that Lean can help organization within any divisions to complete important performance improvement. The improvement can be in many measurements, including those of productivity, quality, cost capabilities with profitability and result of customer satisfaction (Ohno, 1998). Womack et al (1990) preserved the claim that Lean is a business methodology and not naturally a compilation of tools and techniques. Liker (2004) agreed with this concept by claiming that Lean is management interference and greatest test is either can lead to the better performance.

Lean has its roots in the manufacturing especially in the car industry which having been developed from the Toyota Production System (Ohno, 1998). Later it has been adapted and enlarging quickly into the new sectors such as many private manufacturing, construction, logistics & transportation and service organizations such as health, insurance, education, bank and aviation, as suggested by Wallace (2006). According to Bergmiller and McCright (2009), Lean can help to increase efficiency, reduce customer response time, reducing costs, improve profitability and enhance the organisation's attraction. In additional, Lean can lead to sustainable development by increasing customer satisfaction and communication, and reducing cost and delivery time as it is a systematic approach that helps managers to identify wastes and exclude them from the organisation at every stage in the operation, which will lead to better organisational performance and make the company waste-free (Upadhye et al., 2010a).

Lean represents a useful philosophy that can be employed in any organizations regardless of their activities, sizes, or sectors. However, these benefits cannot be achieved unless the organisation addresses the important issues involved in Lean. According to Holweg (2007), the biggest challenge facing organizations is the understanding of Lean's core value as a philosophy and the appreciating how the organization can deal with national and organizational culture differences. Indeed, organizational culture is the main driver for creating strategies to achieve the goals of the organization (Wong, 2007). Boyer and Sovilla (2003) said that the main obstacles for Lean include misunderstanding and undervaluing the managerial and cultural impacts of it and the fact that many organizations do not know the requirements for creating a Lean culture, conflicting measures and illusions regarding the progress, a failure to maintain Lean principles and using Lean as a set of tools rather than a philosophy for doing business.

Service quality under lean implementation

The literature revealed several factors and issues that can obstruct Lean implementation, and several essential aspects that need to be taken into account to implementing Lean. These factors are the bases of Lean Systematic that organizations need to consider these factors; and without them Lean cannot be established or sustained. Based on the previous research of Al-Najem (2014), the required factors for implementing Lean shown in the figure 1 below.

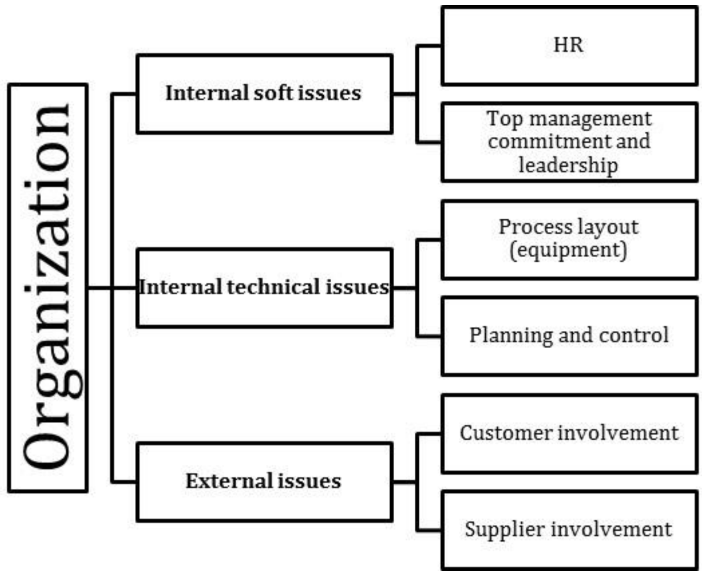

Figure 1 Factors effecting service quality under lean implementation

Source: Al-Najem (2014)

While there are only six factors affecting the Lean operation, as cited in the previous study of Al-Najem (2014) that investigated the factors affecting the readiness of Lean operation in manufacturing sector in Kuwait in six areas, including HR, top management & leadership, process, planning & control, customer relations, and supplier relations. Following the qualitative research with the in depth interviews with airlines' management people in Thailand, however, this research proposed that employee engagement is another important factor that would affect the success of Lean, especially in the service industries such as airlines. Further, the previous study focused on the readiness in the implementation of Lean operation, but this research aims to investigate the impact of Lean toward the overall service quality of the airline, not its readiness as all the airlines in this study had already implemented Lean. In other words, the improvement in seven areas, including HR, top management & leadership, process, planning & control, customer relations, supplier relations, and employee engagement under Lean would lead to better performance, which in turn would help to enhance the competitive advange in the competitive marketplace.

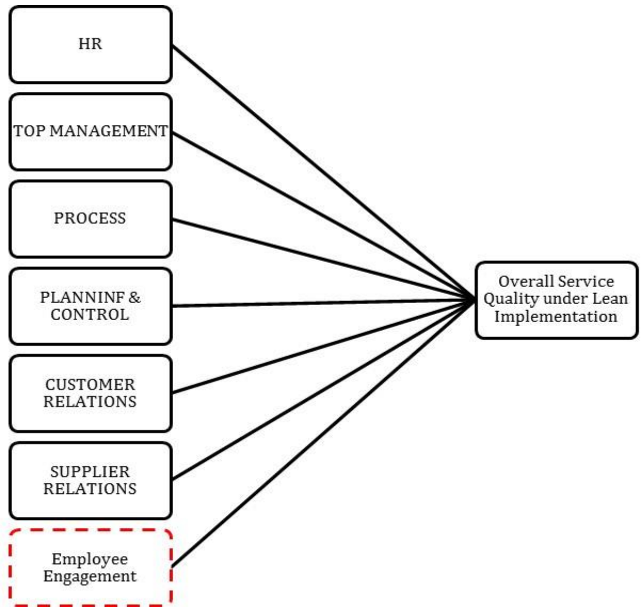

Figure 2 Conceptual framework

Human resource (HR)

Training, empowerment, involvement and recognition are important factors in terms of Lean success (Kumar et al., 2009; Zu et al., 2010; Mefford, 2009; Zhang et al., 2012; Goodson, 2002), and are required in order to produce high-quality products. Employees are the core of the company, and therefore need to be encouraged and involved in company strategy and direction, especially when implementing Lean. Without skilled workers, Lean will not last (Tsang and Antony, 2001). This category represents the core of Lean, as many authors and researchers have stressed the role of HR.

Top management and leadership

The level of top management commitment and leadership is crucial for Lean. This commitment is manifest in many forms, such as providing clear vision, allocating resources and funding, and providing strategic leadership (Tsang and Antony, 2001). To ensure the success of Lean implementation, it is essential for top management to create a quality culture by empowering other employees (Zhang et al., 2012). This factor has been emphasized in various articles (Zu et al., 2010; Mefford, 2009; Kumar et al., 2009; Achanga et al., 2006; Panizzolo, 1998). Without top management and leadership commitment, Lean implementation will not succeed.

Processes

Process management is one of the most important factors in terms of identifying non-value-adding activities and increasing quality. Ineffective processes lead to more waste and lower productivity per employee (Zhang et al., 2012; Goodson, 2002; Lewis, 2000). Service processes are defined by Lovelock (2010) as "an activity or a series of activities of more or less intangible that normally (but not necessarily) take place in interactions between customers and service employees and/or physical resources or goods and/or systems of the service provider, which are provided as solutions to customer problems".

Planning and control

Lewis (2000) and Goodson (2002) had highlighted the importance of planning and control, in which the use of quality control systems and scientific methods is employed to solve problems, as well as to ensure the quality standard as it is key for enhancing the firm's performance and eventually leads to higher levels of customer satisfaction. Lovelock (2010) pointed that service firms normally encounter more problem in quality management than those of manufacturing firms as service cannot be inventoried while consumers may have different experience and perception when the service was delivered.

Customer relations

As highlighted by Zu et al. (2010) and Panizzolo (1998), maintaining good customers is the aim of any company, since all departments are ultimately working to satisfy the customers' wants and needs. To this end, the company must understand its customers' requirements (Zhang et al., 2012). Moreover, the organization needs to respond quickly to customer complaints. Meanwhile, Lean is unlikely to be applicable if the customer demands are unstable or unpredictable, so they organisation must have close relationships with its customers.

Supplier relations

Similarly, this factor had been mentioned in Zu et al. (2010), Zhang et al (2012), and Panizzolo (1998) which suggested that quality suppliers enable companies to produce quality products. It is important in Lean, as the long-term relationships with suppliers will enable the company to perform JIT, which is essential for Lean. They further explained that having fewer suppliers and long-term relationships with them, and making suppliers' part of the firm's team, is healthy and essential for Lean.

Employee engagement

As suggested by Kahn (1990), employee engagement is an approach in workplace resulting in the right conditions for all organizational members for giving their best each day, committing to the organizational goals and values instead of one's goals or values, inspiring to contribute to the organizational achievement, as well as enhancing their well-being. Kahn (1990) also pointed out that employee engagement relies on the establishment of integrity, trust, two-ways commitment and communication among the organization itself and members, which can lead to more chances of business success, better organizational and individual performance, productivity and well-being. Further, employee engagement can be changed over time even better or worse, fast or slow.

Research methodology

Research approaches & data collection

Following the suggestion of Creswell (2003) mixed methodological approach was adopted, in which qualitative research intended to investigate in depth understanding toward the issues and to further explore the another factor affecting the Lean implementation and its effectiveness; and quantitative research was applied to test the hypothesis and verified the theoretical framework mentioned in previous studied in the case of Thailand's aviation industry. A mixed method was designed to avoid the weakness of a single method and to enhance credibility and validity by collecting data from multiple sources. The qualitative research was conducted with one manger from four commercial airlines each through face-to-face interviews. Meanwhile, the quantitative research was conducted with questionnaire survey for 400 respondents with 100 respondents from four commercial airlines each with the adoption of convenience sampling method, as suggested by Zikmund et al (2012)

Data analysis

The reliability test was performed to make sure that there was internal consistency to carry on doing further analysis. Descriptive analysis was used to summarize the data that had been gathered in term of frequency, percentage, mean, and standard deviation. For the hypothesis testing, the independent sample t-test was used to compare the mean scores for two different groups to see if there was a significant difference between two groups of full service airlines and low cost airlines. Further, Pearson correlation and multiple linear regression was carried out with different variables to understand the relationship between two or more variables.

Research results

Results of qualitative research

The finding from the qualitative research revealed that the key strengths of their airlines were ranging from the route network, quality of service, hospitality of service staffs, and reasonable service fees, as well as international reputation of the airline. The frequency of flying with large number of passengers provided the low cost airline with relatively lower fixed costs for a unit, which in turn allows the airlines to offer a service to diverse group of customers to gain large customer base at relatively low costs. To further enhance the service, low cost airline may need to have a wide network with other airlines worldwide. Meanwhile, the capital investment for upgrading the aircrafts involves with very high investment. For full service airlines, it is very difficult to take the advantage from economy of scale and higher prices of service. Admittedly, management people from full service airlines pointed out that the operation costs of airlines were very high.

From the observation, most of service staffs from both full service airlines and low cost airlines were very friendly and polite, while aircrafts were also modern, clean, and tidy. The management people viewed that service price, flying schedule, the quality of service, and reputation and image were the most important factors affecting the customers' decision in selecting the airline for their air travel. Despite tough competition in the industry, the airline industry in Thailand as well as in the region would remain positive, thanks to lower service charge, and growing tourism across the globe. Further, political conflict, global recession, as well as crimes and security concerns were the major factors that might adversely affect the operations. In focusing on lead operations, the management people viewed that people plays the vital role in driving the Lean operations. In other word, the key success in quality management is to focus on the ways to achieve it. For the airline industry, the major goal of quality management is to build customer satisfaction, in which management practices are considered as an upstream of quality management. Aside from the managers at all level, the airline's key staffs include pilot, co-pilot, flight engineer, flight attendance, and ground service staffs. There is no worry about the increased competition after the implementation of AEC as the airline industry in Thailand stands better position in the international market as compared to those in ASEAN region.

Results of quantitative research

From 400 respondents who were the existing employees of airlines, namely Thai International Airways, Bangkok Airways, Air Asia, and Nok Air. About 57% were males, and 43% were females. Respondents' ages were in a range of 21 years old to over 50 years old. Most of them were between 21 -35 years old and were single. Bachelor's degree was the biggest group of respondents' education level, followed by lower than Bachelor's degree, and Master's degree, respectively. None of them had education of higher than Master's degree. Respondents' monthly incomes were ranging between lower than 20,000 baht to more than 80,000 baht a month. They earned about 20,001 – 40,000 baht per month mostly. Based on respondent's working experience with the airline, most of them had worked for the airline for about 4 – 10 years.

Table 1 Profiles of respondents (N=400)

Items	Frequency	Percent (%)
Airline:		
Thai International Airways	100	25.0
Bangkok Airways	100	25.0
Air Asia	100	25.0
Nok Air	100	25.0
Gender:		
Male	228	57.0
Female	172	43.0
Age:		
21 - 35 years old	187	46.8
36 - 50 years old	150	37.5
more than 50 years old	63	15.8
Marital status:		
single	198	49.5
married	184	46.0
others	18	4.5
Level of education:		
lower than Bachelor's degree	79	19.8
Bachelor's degree	263	65.8
Master's degree	58	14.5
Monthly income (Baht):		
less than 20,000 baht	32	8.0
20,001 - 40,000 baht	228	57.0
40,001 - 80,000 baht	98	24.5
more than 80,000 baht	42	10.5
Length of staying:		
less than 6 months	24	6.0
6 - 12 months	65	16.3
1 - 3 years	118	29.5
4 - 10 years	136	34.0
more than 10 years	57	14.2

From the hypothesis testing, Pearson correlation coefficient was used to investigate the relationships between HR, top management & leadership, process, planning & control, customer relations, supplier relations, and employee engagement toward the overall service quality of Airlines.

Table 2 Pearson correlation analysis

		HR	Top management &Leadership	Process	Planning & Control	Customer Relation	Supplier Relation	Employee Engagement	Overall service quality
HR	Pearson Correlation	1	.663**	.346**	.685**	.573**	.025	.152**	.362**
	Sig. (2-tailed)		.000	.000	.000	.000	.621	.002	.000
Top management &Leadership	Pearson Correlation	.663**	1	.393**	.487**	.290**	-.158**	.148**	.303**
	Sig. (2-tailed)	.000		.000	.000	.000	.002	.003	.000
Process	Pearson Correlation	.346**	.393**	1	.144**	.111*	.008	0.0890448	.183**
	Sig. (2-tailed)	.000	.000		.004	.026	.867	.075	.000
Planning & Control	Pearson Correlation	.685**	.487**	.144**	1	.716**	.246**	.508**	.617**
	Sig. (2-tailed)	.000	.000	.004		.000	.000	.000	.000
Customer Relation	Pearson Correlation	.573**	.290**	.111*	.716**	1	.445**	.495**	.568**
	Sig. (2-tailed)	.000	.000	.026	.000		.000	.000	.000
Supplier Relation	Pearson Correlation	.025	-.158**	.008	.246**	.445**	1	.512**	.562**
	Sig. (2-tailed)	.621	.002	.867	.000	.000		.000	.000
Employee Engagement	Pearson Correlation	.152**	.148**	0.0890448	.508**	.495**	.512**	1	.643**
	Sig. (2-tailed)	.002	.003	.075	.000	.000	.000		.000
Overall service quality	Pearson Correlation	.362**	.303**	.183**	.617**	.568**	.562**	.643**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	

From the table 2, the finding indicated there is a significant relationship of HR, top management & leadership, process, planning & control, customer relations, supplier relations, and employee engagement toward the overall service quality of Airlines, with the level of confidence of 99%. The relationship of these factors toward the overall service quality of airlines are positive. Among them employee engagement had the strongest impact toward the overall service quality (r =0.643), followed by planning & control (r = 0.617), customer relations (r = 0.568), supplier relations (r = 0.562), HR (r = 0.362), top management & leadership (r = 0.303), and process (r= 0.183), respectively. Further, the finding from multiple linear regression analysis suggested that the elements of Lean operation can be used to explain the overall service quality of airlines. Following the results of t-test, the finding indicated that there are only four elements of Lean operation that can be used to explain the overall service quality of airlines under this model, which are top management, planning and control, supplier relations, and employee engagement.

Also, the independent sample t-test was used to explore the difference of service quality and management practices under Lean operation. There are four airlines in this study, in which Thai International Airways and Bangkok Airway are classified as full service airline; while Air Asia and Nok Air are classified as low cost airline.

Table 3 The independent sample t-test

	Airline	N	Mean	Std. Deviation	Sig.
Overall service quality	Full Service	200	4.0165	.32762	.000
	Low Cost	200	3.7350	.46900	
HR	Full Service	200	3.8050	.50263	.625
	Low Cost	200	3.8320	.59696	
Top management &Leadership	Full Service	200	3.8867	.47663	.789
	Low Cost	200	3.9000	.51877	
Process	Full Service	200	3.8038	.35344	.217
	Low Cost	200	3.7538	.45007	
Planning & Control	Full Service	200	3.8275	.35390	.174
	Low Cost	200	3.7738	.43236	
Customer Relation	Full Service	200	4.1025	.58681	.000
	Low Cost	200	3.8863	.61124	
Supplier Relation	Full Service	200	3.9990	.36834	.000
	Low Cost	200	3.5440	.43843	
Employee Engagement	Full Service	200	4.0700	.51305	.479
	Low Cost	200	4.1040	.44426	

From table 3, the results suggested that there is significant difference in service quality between full service airlines and low costs airlines, seeing the p-value of less than 0.05. The service quality of full service airlines seemed better than those of low cost airlines. Meanwhile, the finding indicated that there is significant difference in the management practice of customer relations and supplier relations between full service airlines and low costs airlines, seeing the p-value of less than 0.05. The customer relations and supplier relations of full service airlines seemed to be greater than those of low cost airlines. Also, the finding indicated that there is no significant difference in management practices of HR, Top management and Leadership, planning and control, Process, as well as Employee engagement between full service airlines and low costs airlines, seeing the p-value of more than 0.05. The management practices of both types of airlines in these areas are considered as high based on the mean values.

Conclusions

The finding indicated significant relationships of HR, top management & leadership, process, planning & control, customer relations, supplier relations, and employee engagement toward the overall service quality of Airlines, with the level of confidence of 99%. The relationship of these factors toward the overall service quality of airlines are positive. Among them, supplier relation had the strongest impact toward the overall service quality, followed by employee engagement, planning & control, top management & leadership, customer relations, HR, and process, respectively. Further, the finding from multiple linear regression analysis suggested that there are only three elements of Lean operation that can be used to explain the overall service quality of airlines under this model, which are top management & leadership, supplier relations, and employee engagement. Also, the results suggested that there is significant difference in service quality between full service airlines and low costs airlines. The service quality of full service airlines seemed better than those of low cost airlines. Meanwhile, the finding indicated that there is significant difference in the management practice of planning and control between full service airlines and low costs airlines. The planning and control of full service airlines seemed to be greater than those of low cost airlines. Further, the results showed that there is significant difference in the management practice of supplier relations between full service airlines and low costs airlines. The supplier relations of full service airlines seemed to be better than those of low cost airlines. Meanwhile, the finding indicated that there is no difference in management practices of HR, top management and leadership, process, customer relation, as well as employee engagement between full service airlines and low costs airlines.

The recommendation of this research is to focus on these three elements of Lean operations, which are top management & leadership, supplier relations, and employee engagement for the further improvement of service quality on continuous basis. First, the airline should try to further enhance the leadership through empowerment in the organization. The appropriate training and development program should also provide to management people to ensure that they can encourage and coach their subordinates. The management should put more effort in arranging people in the position where they can utilize their skills, qualifications, and experience. Also, leader may need to motive them through providing job security and career advancement. The finding revealed that there is a strong positive relationship between top management and leadership toward HR functions in the organization. It can be concluded that the effectiveness of top management and leadership will help to enhance the effectiveness and efficiency of HR functions; while the improvement of effectiveness and efficiency of HR functions will lead to enhance the effectiveness of top management and leadership within the organization. Second, it is suggested that the airline should employ more local suppliers to avoid shipment delays to enhance the supplier relations. The development of effective communication between and airlines and suppliers would help suppliers to have better cooperation and commitment to maintain a long-term relationship. Only the good suppliers should be maintain as to reduce the number of suppliers in each category. Third, for the enhancement of employee engagement, employees should be treated honestly and fairly in every transaction. The airline should provide them with attractive incentive and growth opportunities. Finally, for full service airline, the overall service quality remained better than those of low cost airlines but the gap is relatively small. The full service airline should try to further enhance its service quality, especially in the enhancement of top management and leadership, planning and control, and employee engagement to be better than those of low cost airlines in order to survive in the market.

For the future research, the outcomes of this research may be limited to only them that have already implemented its strategies under the Lean and may not be applicable for other airlines even they are in the same industry or even same geographical locations based on cultural factor. Therefore, further study would be suggested to take place in other airlines in other geographical location for the generalization of the study. To learn more about organizational factors that might affect the service quality, extensive study should include facts like organizational cultures, structures, sizes, income level, and others to know opinions of respective operators. For example, there might be some difference in Lean among small and large airlines. And thus, the outcomes of future research will reach to a wider range of airline industry. In addition to these, further study should analyze the difference between customers and employees' perspective toward the issue in this study.

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Appendix A

Questionnaire

Kindly complete all questions by marking "✓" in the space given below. There is no right or wrong answer,

Airline

❑ Thai Airways ❑ Bangkok Airways
❑ Nok Air ❑ AirAsia

Part 1: Respondent general information

1. Gender
   ❑ Male ❑ Female
2. Age
   ❑ Less than 20 years old ❑ 20 – 35 years old
   ❑ 36 – 50 years old ❑ More than 50 years old
3. Marital Status
   ❑ Single ❑ Married ❑ Others
4. Educational Background
   ❑ Lower than Bachelor's Degree
   ❑ Bachelor's Degree
   ❑ Master's Degree
   ❑ Higher than Master's Degree
5. Monthly Income
   ❑ Less than THB 20,000
   ❑ THB 20,000 – THB 40,000
   ❑ THB 40,001 – THB 80,000
   ❑ Over than THB 80,000
6. How long you been an employee of the airline?
   ❑ Less than 6 months
   ❑ 6 -12 months
   ❑ 1-3 years
   ❑ 4 - 10 years
   ❑ More than 10 years

Part 2: Attitude toward factors

Please use the following scales 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree						
Item No.	**HR**	1	2	3	4	5
A1	Employees are qualified enough to contribute to solving problems and are able to work as a team.					
A2	Employees are able to perform different tasks.					
A3	Incentive and bonuses are available for employees who help to improve processes and eliminate unnecessary moves.					
A4	Each employee has a clear understanding of his job description.					
A5	Departmental and employee relation are good, and conflict barely occurs.					
A6	Employees are empowered that their suggestions and ideas are actively used and implemented.					
A7	Employees act according to the group's interest in which the evaluation is based on group performance.					

Item No.	**Top management and leadership**	**1**	**2**	**3**	**4**	**5**
B1	Manager encourages and coaches employees by visiting the workplace on a regular basis					
B2	People are located in the organization where they can utilize their skills, qualifications, and experience.					
B3	People have a job security and they are regularly promoted to managerial positions.					
B4	The organization invests in training program and encourages cross job training					
B5	The organization uses external experts and consultants for evaluating the overall organizational performance as well as for improving quality level.					

Item No.	Process	1	2	3	4	5
C1	The processes used within similar operations are placed close to each other for eliminating unnecessary moves.					
C2	Each working zone is controlled and operated by qualified and well-trained employees.					
C3	The process flow of service is smooth and continuous as the staffs and equipment are grouped.					
C4	Services are not produced unless orders for them are received from customers.					
C5	Service staffs are trained on a regular basis so that they can provide the highest level of service quality.					

Item No.	Planning & control	1	2	3	4	5
D1	A focus group of service employees is conducted on a regular basis to identify wastes and quality gap as well as to solve the problem through generating new ideas and solutions, which are then submitted to managers and related parties.					
D2	There is an awareness of the wider industry performance, and a clear strategy is followed to benchmark performance with the top-class airline.					
D3	There are standard procedures for producing and delivering services.					
D4	Problem solving techniques such as TQM are used to identify the causes of quality problem.					
D5	Up-to-date information showing key performance indicators, progress and job activity are available and displayed.					

Item No.	Customer relation	1	2	3	4	5
E1	There is an awareness of what service features that they value and are willing to pay for.					
E2	Feedback from customers is sought regularly for the improvement of service design and quality.					
E3	Customers participate in the initial design process.					
E4	Customers help the airline by providing information about their future demands.					
E5	There is a system in place for collecting customer complaints so that problems can be eliminate and avoided in the future.					

Item No.	Supplier relations	1	2	3	4	5
F1	A clear strategy is in place by which to evaluate supplier performance in term of quality, delivery and prices.					
F2	Local suppliers are used to avoid shipment delays.					
F3	Suppliers are aware of service designs and participate heavily during design and development.					
F4	Raw material are received on time from the date of order.					
F5	Suppliers are cooperative and committed to maintain a long-term relationship.					
F6	Active steps are taken to reduce the number of suppliers in each category.					

Item No.	Employee engagement	1	2	3	4	5
G1	I enjoy working with the airline.					
G2	The best way for me to advance my achievement is to stay with the airline.					
G3	The airline probably has a reputation as being an excellent employer.					
G4	The airline treats me honestly in every transaction.					
G5	I am loyal to the airline.					

Part 3: Attitude toward factors (Overall service quality)

Please use the following scales 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree						
Item No.	**Overall service quality**	1	2	3	4	5
H1	The airline performs the service right the first time.					
H2	The airline does something what they promised by a certain time.					
H3	The airline services are highest safe.					
H4	The behavior of employees in the airline makes customer feel confidence.					
H5	Employees of the airline are able to answer customers' questions.					
H6	The airline inform customers exactly when services will be performed.					
H7	The employees of the airline are always ready to service the customers.					
H8	The employees of the airline are always willing to help customers.					
H9	Services of the airline are fast					
H10	The airline is willing to give customer's best interests.					
H11	The airline shows a sincere interest to help customers resolve.					
H12	The employees of the airline understand the needs of customers.					
H13	The airline has modern looking equipment and appealing physical facilities.					
H14	The airline's employees are neat appearing.					

Interview questions

Section 1

- Self-introduction by Interviewer.
- Explain the objective of this research, and procedure of interview

Section 2

- How many year have you worked with the airline?
- Have you known about lean operation? Please explain
- Have your airline engaged in lean operation? Why or why not?
- Who are the target customer of your airline?
- What are the major strengths and weakness of your airline?
- What are the advantages and disadvantage among large and small airline?
- What are the factors affecting the success of lean operation?
- Explain the prospects of the airline industry in Thailand?
- In your opinion, what are going to affect your airline the most after the implementation of AEC in 2015?

Guide for authors

University of the Thai Chamber of Commerce International Journal of Business and Economics (UTCC IJBE) is published by University of the Thai Chamber of Commerce, and Thailand Management Association. It is published twice yearly in a spring and fall edition and is directed toward the needs of academia, practitioners, executives, researchers, students, and the general public interested in business management (i.e., Marketing, Service Management, Innovation and Design in Business, Finance, Banking, Accounting, Economics, Insurance and Risk Management, Production, Industrial and Operation Management, Strategic Management and Management, International and Global Business Management, Entrepreneurships, Organization Behavior, Business Ethics, Business Law, Business System, Hospitality and Tourism Management, Human Resource Management, and Office and Facility Management).

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

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

Content

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

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

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

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

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

All manuscripts are judged on their contribution to the advancement of the science and/or practice of business management. The editors expect all manuscripts to follow accepted standards for scholarly work. Manuscripts are judged not only on depth and scope of ideas presented and their contribution to the field, but also on their clarity, organization, readability, and comprehensibility.

Manuscripts should be written in a manner that is interesting and readable to both practitioners and academics. It is beneficial to include a section regarding managerial implications and discussion of the consequences of applying the proposed ideas. Technical terms should be defined.

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The sections of the manuscript should be placed in the following order: Cover page, Title page, Authors, Abstract (on a page by itself) and Body, Illustrations, Citation, References, and Appendices.

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The cover page should include the title of the manuscript and the authors' name(s) in the order in which they will be printed. The following information should be provided for each co-author: name, title, university/company name, mailing address, telephone number, facsimile number, and e-mail address. Please indicate which co-author will serve as the primary contact for the Journal.

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Type the title in bold type, all caps, single-spaced, and centered across the top of the first page, in 14 point Times New Roman, as illustrated above.

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The author(s), affiliation(s), mailing address(es), and e-mail address(es) should be single-spaced and centered on the line below the title, in 12 point bold Times New Roman for the author(s), and in normal Times New Roman for the remainders. One line space should be used to separate author(s) from the paper title. Please do not use titles such as Dr., Professor, etc.

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Introduce the paper with an abstract of approximately 100-200 words, in 12 point Times New Roman. Begin with the centered heading "Abstract". All body paragraphs should begin flush left (no paragraph indent) and right justified. Single-space the body of the paper. Use 12 point Times New Roman throughout. Figures and tables should be placed as close as possible to where they are cited.

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

Books:

Akachai Apisakkul & Thasana Boonkwan (2004), *Strategic Management, 4th Ed.* New York: McGraw-Hill Irwin.

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