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## 2019

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**THE BENEFITS OF FULL TRADE LIBERALIZATION AND ACCESSIBILITY  
RCEP FOR THAILAND'S EXPORT POTENTIALS**

by

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**ABSTRACT**

This paper aims to investigate Thailand's export potentials in the ASEAN+6 countries, due to a "full liberalization and accessibility scenario" within the Regional Comprehensive Economic Partnership (RCEP). The methodology used is that of "filtering" statistical country data on macro-economic performance and imports following the Decision Support Model (DSM). The macro-economic data used are from the World Bank and the countries' imports data are from the 2017 CEPII *BACI* data set. The export potentials thus identified are the base line in the further analysis. Next, potential exports under a "full liberalization and accessibility scenario" are calculated and compared with the base line export potentials. It is found that when all entry and accessibility barriers for traded goods are removed under RCEP, the most interesting realistic export opportunities (REOs) are in countries where they will increase most (Cambodia and Vietnam). In countries where the potential export revenue is high, like in China, Korea and Japan, the export potential value will increase less than the number of REOs, but will lead to a large export revenue. It is concluded that the Thai exporters and Thailand's export promotion agency should concentrate on the REOs in the RCEP countries offering the higher export revenue.

**KEY WORDS:** Export potential; Decision Support Model; ASEAN, RCEP

**INTRODUCTION**

In the present paper, we identify and investigate the export potentials of Thailand as a result of a "fully liberalized RCEP scenario" and compare these potentials with that in the ASEAN+6 countries which constitute the Regional Comprehensive Economic Partnership (RCEP) that is presently still under negotiation. ASEAN as a grouping has already signed bilateral ("ASEAN+1") free trade agreements with China, Japan, South-Korea, India, Australia and New Zealand, thus creating the ASEAN+6, but the FTAs differ in terms of product coverage (on the coverage of ASEAN+1 FTAs, see Cuyvers, Steenkamp, Viviers, Rossouw & Cameron, 2017, p. 3) and many non-tariff trade barriers remain. Tariff elimination coverage for Thailand varies from 98.9 % in the ASEAN-New Zealand FTA and 93.5 % in the ASEAN-China FTA to 78.1 % in the ASEAN-India FTA (Fukunaga & Isono, 2013, p. 8). It appears that "regulatory distance at the extensive margin" that captures differences in patterns of imposition of non-tariff measures of different types is relatively small between the ASEAN countries, but large vis-à-vis e.g. China (Cadot & Ing, 2015, p. 21). Ad valorem equivalents of the non-tariff measures in the ASEAN+6 countries show that these still have a high price impact (Ghodsi, Grübler & Stehrer, 2016, p. 32, Appendix 2). There are also many types of Rules of Origin in the ASEAN+1 FTAs (Fukunaga & Isono, 2013, p. 11-14).

Within RCEP the ASEAN+1 agreements will be “multilateralised” to all countries involved. Negotiations about the RCEP started in November 2012, on the occasion of the ASEAN Summit held in Cambodia and are still underway. The twenty-first round of negotiations was held in Yogyakarta, Indonesia, from February 2 to 9, 2018. Leaders of the 16 countries agreed to intensify negotiations throughout 2018. They set a new target to sign the agreement during the ASEAN summit in Singapore in November 2018, but at that time stated that they “are determined to conclude a modern, comprehensive, high quality, and mutually beneficial RCEP in 2019.” (ASEAN, 2018) Negotiation deadlines were missed three times, in 2015, 2016 and 2017.

### **LIBERALIZATION OF TRADE IN GOODS IN THE RCEP**

The countries that make up the RCEP are very diverse, which explains the slow progress in the negotiations. It also is expected that the RCEP Agreement will not encompass the various aspects of a “WTO-Plus” agreement. Taking experience with the TPP negotiations into account, ERIA economist Lurong Chen stated recently: “While filling RCEP with high-quality standards, like those outlined in the TPP agreement, may be very welcome in some circles, it is not necessary at this stage. What is important is that the negotiations are inclusive and represent the needs and circumstances of all countries in the region from least to most developed. Doing so will not only help to conclude the agreement itself but will also facilitate internal domestic reforms.” (Chen, 2017)

It is very likely that the final RCEP agreement, therefore, will not be as comprehensive as some countries are aiming for. In fact, countries like Thailand, will benefit most from complete free trade with its trading partners of RCEP, as econometric simulations clearly show. As early as 2012, the impact of ASEAN+6 was calculated by Pupphavesa *et al.* (2012), using GTAP simulations. The ASEAN+6 scenario investigated was that of ASEAN member countries having free trade agreements under the ASEAN + 6 framework, with import tariffs at 0% (Scenario 3a), and alternatively except for sensitive products (Scenario 4). It was found that ASEAN+6 (Scenario 3a) will increase Thailand’s GDP with 4.03 % (as compared with ASEAN+3 which increases Thailand’s GDP with 3.87 %). If sensitive items are excluded from the agreement, the increase of Thailand’s GDP will be only 3.55 % (Scenario 4). However, these scenarios also showed a deterioration of Thailand’s trade balance.

In the past, quite a few macro-economic studies were carried out to assess the benefits of further regional integration in East Asia and in the Asia-Pacific, to which more recently, also RCEP was added. Plummer, Petri & Zhai (2014) used a CGE model that incorporates recent innovations in heterogeneous-firms trade theory and intra-industry firm heterogeneity in productivity and fixed cost of exporting. The RCEP scenario simulated entailed liberalization of remaining NTBs, accumulation of rules of origin and the partial liberalization of services, which was modelled through full liberalization of tariff barriers among the ASEAN+6 economies, a 40 per cent reduction in regional goods NTBs, a 30 per cent reduction of regional services NTBs, as well as a 20 per cent cut in fixed trade costs among FTA members from 2017 to 2022. They estimated the welfare gain of this RCEP scenario for Thailand to amount to 39.3 billion US\$ by 2025 (in 2007 prices) (Plummer, Petri & Zhai, 2014, Table B1) or 17.7 % of the baseline GDP (Plummer, Petri & Zhai, 2014, Table B2), creating employment of 4.9 million people (of which informal employment 3.1 million) (Plummer, Petri & Zhai, 2014, p.36, Table 12). Exports of Thailand will

increase by 2025 with 47.8 % from the baseline, as compared to imports increasing with 48 % (Plummer, Petri & Zhai, 2014, p. 21, Table 6).

Itakura (2015) has conducted a set of hypothetical simulations with a recursively dynamic CGE model of global trade, focusing on the period 2015–2030 and taking the RCEP countries' trade liberalization commitments (under AEC and their ASEAN+1 FTAs) and measures up to 2015 into account in the baseline estimation. His GTAP model allows international capital mobility and capital accumulation. Three scenarios are simulated, which by 2030 give for Thailand the following cumulative GDP deviation from the baseline:

- S1: Tariff reduction (50 %) + logistics improvements on merchandise trade and reduction of barriers to service trade by 7 %, leading to +2.4 % GDP from the baseline,
- S2: S1 with tariff reduction (75 %), leading to +3.1 % GDP from the baseline,
- S3: S2 + lowering country specific risk by 5 basis point, leading to +5.3 % GDP from the baseline (Itakura, 2015, p. 14, Table 1.7).

Under the three scenarios, Thailand's international trade balance will deteriorate with exports increasing with 3.6 %, 5.3 % and 7.8 %, respectively, and imports with 4.4 %, 6.1 % and 8.9 % (Itakura, 2015: 17-18, Table 1.8 and 1.9)

Petri, Plummer, Urata & Zhai (2017), following up on their former simulations (see above), have more recently explored alternative scenarios for further trade liberalization in the Asia-Pacific after the 2017 withdrawal of the United States from the Trans Pacific Partnership. One of the scenarios they estimated entailed a weaker RCEP, considering recent developments in the negotiations. They assumed relatively limited liberalization provisions among which e.g., weaker tariff reductions than in most ASEAN+1 agreements. Based on their calculations, Thailand's real income will have increased by 2030 only 0.3 % from the baseline, with exports (in 2015 prices) having increased 4.3 % (Petri, Plummer, Urata & Zhai, 2017, p. 14-16, Table 2 and 3). This is a striking result if compared with these of Itakura (2015) but is most likely due to their assumptions about liberalization under RCEP. It is interesting to compare this result with the 1.24 % GDP increase which was found by Gilbert, Furusawa & Scollay (2016, p. 35, Table 5) who assume full tariff liberalization between the RCEP countries.

A different approach was followed by Chen, Cuyvers & De Lombaerde (2017), who calculated market gravitation indicators for the ASEAN member countries with respect to the Trans Pacific Partnership and the RCEP, based on Baldwin (2009, p. 12-14), but weighted using a measure of the degree of market integration of TPP and RCEP (proxied by the percentage of duty-free trade among its member states). They show that to ASEAN and its member states (with an exception for Vietnam and Cambodia), concluding the RCEP can secure a market with greater gravity than TPP even in the most conservative scenario of RCEP only leading to 80% duty free trade among member states.

## THE DSM METHODOLOGY

We assume in this paper that RCEP will fully eliminate all existing entry barriers between the member countries. Following this assumption, we will identify Thailand's potential exports in the 15 target economies. The export potentials of Thailand are determined by using the Decision Support Model (DSM). These potentials are compared with the export potentials in ASEAN+6 at present, as a base line.

The DSM is a model derived from international marketing research to identify for an exporting country the realistic export opportunity in a target economy (or target economies) or the world at large. It uses macroeconomic performance data and international trade data of the countries in the world for which these are available and filters out less interesting countries and export products. The DSM was originally designed to help export promotion agencies in identifying interesting export opportunities and evolve suitable export promotion strategies (Cuyvers, De Pelsmacker, Rayp & Roozen, 1995). The model was applied for countries as diverse as Belgium (Cuyvers, De Pelsmacker, Rayp & Roozen, 1995; Cuyvers, Steenkamp & Viviers, 2012b), Thailand (Cuyvers, 1996, 2004, Cuyvers, Steenkamp, Viviers, Rossouw & Cameron, 2017), the Philippines (Archie, 2004), South Africa (Rossouw, Steenkamp, Viviers & Cuyvers, 2010; Pearson, Viviers, Cuyvers & Naudé, 2010), the Netherlands (Viviers, Cuyvers, Naudé, Steenkamp, Rossouw, Cameron, Idsardi & Parry, 2014), Greece (Kanellopoulos & Skintzi, 2014), Czechia (Urban, Mejstřík & Gutierrez Chvalkovská, 2014), Namibia (Teweldemedhin & Chiripanhura, 2015), Rwanda (Cameron & Viviers, 2017) and Louisiana (USA) (Oluwade, 2018). The DSM has been used recently to investigate and assess Thailand's realistic export opportunities (REOs) in ASEAN+3 (Cuyvers, Steenkamp, Viviers, Rossouw & Cameron, 2017).

For a full description of the DSM methodology the reader is referred to Cuyvers & Viviers (2012) and Viviers, Cuyvers, Naudé, Steenkamp, Rossouw, Cameron, Idsardi & Parry (2014). Suffice it here to summarize this methodology. The analysis starts with 203 importing countries for which macro-economic data and international trade data are available. In Filter 1, all countries that are showing too much commercial and political risk to do business with, as well as countries the macroeconomic performance in terms of GDP and GDP growth can be considered too low, are filtered out. In Filter 2, for the countries that passed Filter 1, imports at the HS 6-digit level are assessed, such that only "possible export opportunities" (PEOs) can be further examined in Filter 3. Filter 3 basically relates to market accessibility of the PEOs. In Filter 3.1, the PEOs that show too high market access barriers due to market concentration are removed, leaving a set  $E_C$ . Simultaneously, in Filter 3.2, the PEOs that some way or another are confronted with high trade barriers (tariffs and non-tariff measures, distance of the market, cultural factors, distribution costs, etc.) are removed, leaving a set  $E_T$ . The REOs thus identified are the HS 6-digit product-country combinations belonging  $E_C \cap E_T$ . In Filter 4 the REOs are categorized according to the import market characteristics (large market, growing market, etc.) and Thailand's relative market share. We define Thailand's relative market share as  $\mu_{\text{Thailand},i,j} = (X_{\text{Thailand},i,j}/X_{\text{six},i,j})$ , with  $X_{\text{Thailand},i,j}$  Thailand's exports of product category  $j$  to country  $i$  and  $X_{\text{six},i,j}$  is top six countries' total exports of product category  $j$  to country  $i$ . We also define<sup>1</sup>:

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<sup>1</sup> These definitions of relative market share and the rule of thumb used to differentiate between low, intermediate low, intermediate high and high relative market share is more straightforward and transparent than that in our previous DSM researches. See on the previous approach Cuyvers, De Pelsmacker, Rayp & Roosen, 1995; Cuyvers, Steenkamp & Viviers, 2012a).

$\mu_{\text{Thailand},i,j} < 0.05$ : Thailand's relative market share is relatively small,

$0.05 \leq \mu_{\text{Thailand},i,j} < 0.25$ : Thailand's relative market share is intermediately small,

$0.25 \leq \mu_{\text{Thailand},i,j} < 0.5$ : Thailand's relative market share is intermediately high,

$\mu_{\text{Thailand},i,j} \geq 0.5$ : Thailand's relative market share is relatively high.

The international trade data used in Filter 2 and 3 are based on the *Base Analytique du Commerce International (BACI)* data set which is a reconciled version of the UN COMTRADE database provided by CEPII (*Centre d'Études Prospectives et d'Informations Internationales*), 2017 – HS 2007 revision.<sup>2</sup> The GDP and GDP per capita data used in Filter 1 are from the World Bank Development Indicators database<sup>3</sup>, and the country risk scores used in the same Filter 1 are from Credendo.<sup>4</sup>

The list of REOs provides trade policy experts, export promotion agencies, private exporting companies and consultants with important information for setting up appropriate export promotion strategies. The availability of the list of REOs, although much smaller than the product-country combinations that are started with in Filter 2 of the DSM, is a necessary condition for the development of a focused and cost-effective export promotion strategy. Evidently, in elaborating and formulating such strategies the information on the target market characteristics and the present export market shares at REO level that are used in the DSM Filter 4 will allow finetuning. In the formulation process of export promotion strategies, also the use of detailed market potential data at the level of the individual REOs is crucial and can be estimated using regression analysis.

#### **THAILAND'S EXPORT POTENTIALS IN THE RCEP COUNTRIES: AN OVERVIEW OF THE MAIN DSM RESULTS**

Based on the 2017 DSM update, Thailand's REOs in the world amount to 17,104, equivalent to an estimated export potential of 241.8 billion US\$. 74.5 % of these REOs are in markets that are showing both imports growth in the short and longer period. However, 69.6 % of the Thailand's REOs in the world are in markets where the Kingdom's market share is small. Of these worldwide REOs, the RCEP countries represent 22.4 % (3,836 REOs), which is good for 37.3 % (90.1 billion US\$) of the Thailand's worldwide export potential. However, Lao PDR is not included in these figures because the country drops off the list already in Filter 1 due to too high commercial and political risks involved in doing business. Since including Lao PDR leads only to an additional 71 REOs for Thailand with an estimated export potential of 17.6 million US\$, we decided to include the country. This is done by neglecting commercial and political country risk of the RCEP countries which brings the number of Thailand's REOs in the RCEP countries to 3,907, representing an estimated potential export value of 90 billion US\$.

It is important to stress that Thailand's actual exports to the RCEP countries represent only 58.7 % of its export potential (see Table 1). China alone shows 447 REOs for Thailand with an export potential of 32.8 billion US\$, whereas Thailand's actual exports to China represent only 59.4 % of its export potential in that country. These DSM results,

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<sup>2</sup> See Gaulier and Zignago (2010). For further information also see [http://www.cepii.fr/CEPII/en/bdd\\_modele/presentation.asp?id=1](http://www.cepii.fr/CEPII/en/bdd_modele/presentation.asp?id=1)

<sup>3</sup> <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators>

<sup>4</sup> [https://www.credendo.com/country\\_risk](https://www.credendo.com/country_risk)

obviously, vindicate the attention that is devoted in the present paper to export potentials in the RCEP countries and on the impact of further (or full) trade liberalization and accessibility. Table 1 shows the RCEP country distribution of Thailand's REOs as well as the degree of utilization of its export potential.

**Table 1.***Thailand's Actual and Potential Exports in the RCEP Countries.*

Country	No. of REOs	Realistic Export Potential to Target Market(s) (x1000 US\$) (1)	Total Exports from Thailand to Target Market(s) (x1000 US\$) (2)	Thailand's actual import market share (%) (3)	Degree of utilization of Thailand's export potential (2)/(1) (%)
Total in RCEP	3,907	90,024,305.83	52,873,799.26	7.6%	58.7%
Australia	240	4,067,671.04	2,301,252.35	7.8%	56.6%
Brunei Darussalam	174	33,349.91	24,716.64	10.3%	74.1%
Cambodia	200	102,231.56	545,941.31	45.7%	534.0%
China	447	32,813,451.99	19,486,986.36	7.9%	59.4%
India	321	4,317,639.53	2,583,467.50	7.5%	59.8%
Indonesia	256	4,752,207.76	1,755,971.94	5.4%	37.0%
Japan	366	12,604,200.00	9,682,301.30	9.9%	76.8%
Korea, ROK	305	9,442,808.64	2,586,904.44	3.6%	27.4%
Lao PDR	71	17,632.45	158,854.03	59.9%	900.9%
Malaysia	287	3,085,742.08	3,474,851.38	13.9%	112.6%
Myanmar	154	370,172.95	854,316.05	27.6%	230.8%
New Zealand	165	272,900.74	183,373.31	8.9%	67.2%
Philippines	192	1,608,898.28	1,048,471.65	9.1%	65.2%
Singapore	298	13,008,978.89	5,258,144.66	4.6%	40.4%
Vietnam	431	3,526,420.03	2,928,246.34	11.4%	83.0%

*Source:* DSM Results.

It might seem surprising that some utilization rates are larger than 100 % (some substantially larger). In fact, some of the actual exports to a country such as e.g., Cambodia or Myanmar, are not REOs, i.e., exports showing sufficient future potential, which explains why actual exports to some target markets can be higher than the estimated export potential based on the REOs.

China, offering the largest potentials both in terms of money value and in terms of number of REOs, is followed by Singapore (298 REOs; 13 billion US\$), Japan (366 REOs; 12.6 billion US\$) and South Korea (305 REOs; 9.4 billion US\$). Countries such as India, Indonesia, Malaysia and Vietnam show relatively high potential export values, but also a high number of REOs, which means that on average the potential export value per REO is relatively low.

Table 2a shows the distribution of Thailand's 3,907 REOs in the RCEP according to the respective target import market characteristics and Thailand's market share for the respective REOs, whereas Table 2b is showing that distribution based on potential export values.

**Table 2a.**

*Distribution of Thailand's Headcount REOs according to Import Market Characteristics and Thailand's Market Share.*

	Small Market Share	Intermediate Small Market Share	Intermediate Large Market Share	Large Market Share	Total
1-Large Market	4.2%	3.8%	1.3%	1.0%	10.3%
2-Growing Market (Short & Long term)	27.9%	18.7%	6.9%	11.9%	65.4%
3-Large Growing Market (Short term)	0.9%	0.9%	0.3%	0.3%	2.4%
4-Large Growing Market (Long term)	1.6%	1.6%	0.3%	0.5%	4.0%
5-Large Growing Market (Short & Long term)	7.8%	6.3%	1.8%	2.0%	17.9%
Total	42.4%	31.3%	10.6%	15.7%	100.0%

**Source:** DSM Results.

**Table 2b.**

*Distribution of Thailand's REOs Based on Potential Export Value, according to Import Market Characteristics and Thailand's Market Share.*

	Small Market Share	Intermediate Small Market Share	Intermediate Large Market Share	Large Market Share	Total
1-Large Market	26.0%	14.1%	1.5%	0.4%	42.1%
2-Growing Marketm (Short & Long term)	7.7%	4.1%	1.3%	0.7%	13.9%
3-Large Growing Market (Short term)	7.2%	1.9%	1.5%	0.2%	10.7%
4-Large Growing Market (Long term)	2.2%	1.3%	0.1%	0.2%	3.7%
5-Large Growing Market (Short & Long term)	16.3%	10.4%	1.8%	1.1%	29.6%
Total	59.4%	31.7%	6.3%	2.6%	100.0%

**Source:** DSM Results.

Of Thailand's REOs in the RCEP countries, 65.4% are in markets that show import growth in the short and long run, and 26.3 % of the REOs are in markets where Thailand import market share is high or intermediately high. However, in terms of potential export values involved these percentages are much lower.

It is striking that the 15.7 % of the REOs in RCEP markets are relating to product-country combinations with a high Thai market share, whereas these combinations only represent 2.6 % of the Kingdom's potential export value of the REOs in these markets. In contrast, 42.4 % of the REOs are in import markets where Thailand's market share is very low but are good for 59.4 % of the total potential export value in the RCEP. There exists a huge export potential in the RCEP markets, but often Thailand has a low presence and is facing much competition, which implies that a lot of resources will have to be devoted to increase its exports. This conclusion is strengthened further if due account is taken of the relatively low percentages that the high market share REOs in the total potential export value in the RCEP countries are representing: 26.3 % of the REOs represent only 8.9 % of the total potential export value in the RCEP.

**Table 3.**

*Top 20 of REOs (HS 2-digits).*

Rank	HS2	HS2 Chapter	No. of REOs	Realistic Export Potential to Target Market(s) (x1000 US\$)
		Total	3,907	90,024,305.83
1	HS85	Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles	463	35,004,971.30
2	HS27	Mineral fuels, oils and products of their distillation; bituminous substances; mineral waxes.	37	18,575,053.40
3	HS84	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof.	319	7,738,015.98
4	HS39	Plastics and articles thereof.	227	6,871,310.06
5	HS29	Organic chemicals.	118	3,714,098.80
6	HS90	Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus: parts and accessories thereof.	125	1,988,488.19
7	HS40	Rubber and articles thereof.	239	1,979,915.59
8	HS87	Vehicles (excluding railway or tramway rolling-stock) and parts and accessories thereof.	91	1,407,354.66
9	HS74	Copper and articles thereof	40	1,371,535.69
10	HS73	Articles of iron or steel.	99	1,049,356.69
11	HS21	Miscellaneous edible preparations.	67	932,491.90
12	HS03	Fish and crustaceans, mollusks and other aquatic invertebrates	73	900,978.99
13	HS71	Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof; imitation jewelry; coin.	43	796,301.42
14	HS44	Wood and articles of wood; wood charcoal	65	762,032.58
15	HS52	Cotton	106	531,074.19

Rank	HS2	HS2 Chapter	No. of REOs	Realistic Export Potential to Target Market(s) (x1000 US\$)
		Total	3,907	90,024,305.83
16	HS19	Preparations of cereals, flour, starch, or milk; pastrycooks products	46	356,378.71
17	HS48	Paper and paperboard; articles of paper pulp, of paper or of paperboard	101	344,577.31
18	HS55	Man-made staple fibres.	98	341,072.30
19	HS94	Furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings; lamps and lighting fittings, not elsewhere specified or included; illuminated signs, illuminated name-plates and the like; prefabricated buildings.	23	297,661.10
20	HS54	Man-made filaments	71	297,019.64

**Table 3.** (continued)

**Source:** DSM Results.

The largest export potentials are found among electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles (HS85: 463 REOs; 35 billion US\$); mineral fuels, oils and products of their distillation; bituminous substances; mineral waxes (HS27: 37 REOs; 18.6 billion US\$); nuclear reactors, boilers, machinery and mechanical appliances; parts thereof (HS84: 319 REOs, 7.7 billion US\$); plastics and articles thereof (HS39: 227 REOs; 6.9 billion US\$), organic chemicals (HS29: 118 REOs; 3.7 billion US\$), followed by optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus: parts and accessories thereof (HS90: 125 REOs; 2 billion US\$); rubber and articles thereof (HS40: 239 REOs; 2 billion US\$) and vehicles (excluding railway or tramway rolling-stock) and parts and accessories thereof (HS87: 91 REOs; 1.4 billion US\$).

### **THAILAND'S EXPORT POTENTIALS IN THE RCEP COUNTRIES IN A FULL TRADE LIBERALIZATION AND ACCESSIBILITY SCENARIO**

In previous DSM studies that investigated Thailand's REOs, as well as the present one, existing trade barriers are not quantified<sup>5</sup>, but a proxy is used instead by looking for a given potential export opportunity of Thailand, whether this is also the case for the Kingdom's neighboring ASEAN-6<sup>6</sup> countries. If at least one of these neighboring countries is exporting the product to the target import countries in which also Thailand's export opportunity is located, it is assumed that there are sufficiently low "revealed barriers to trade" and that Thailand's absence or low presence in that market for the given export product cannot be attributed to such trade barriers. However, if all ASEAN+6 countries are confronted with the same barriers to trade, e.g. in China, the export opportunity which was identified will not be classified as a realistic export opportunity. The removal of all barriers to trade and full accessibility of the ASEAN countries with the six other countries of ASEAN+6 under the RCEP would classify all export opportunities of Thailand as a realistic export opportunity. By not applying the Filter 3.2 of the DSM which is testing for the "revealed absence of trade barriers" export opportunities that otherwise would be classified as possible export opportunities, will now be classified as realistic export opportunities. All these realistic export opportunities can be assumed to be the result of the complete removal of trade barriers and full accessibility of Thailand's exports in the RCEP countries.

Stated with reference to the DSM methodology: we consider in Filter 3.1 first the possible export opportunities (i.e., all export opportunities having passed Filter 1 and 2) the import market for which is not concentrated ( $E_C$ ) and next, in Filter 3.2, the possible export opportunities for which the many barriers to trade are "revealed" to be sufficiently low ( $E_T$ ), such that neighboring ASEAN-6 countries are exporting the products to the respective markets. The set of realistic export opportunities is then consisting of the possible export opportunities which are both not concentrated and are not confronted with high barriers to trade, i.e.  $E_C \cap E_T$ . In contrast, by only applying Filter 3.1 and not applying Filter 3.2, the

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<sup>5</sup> Apart from the tariff barriers for which data can be used such as the nominal tariff rates or the tariff rate equivalents, quantitative data on non-tariff measures are mostly ad valorem equivalents which are often available only for a limited number of products. A wide variety of measures and indicators of distribution costs and transportation costs exist, such as the time required for importing in a country, etc.

<sup>6</sup> ASEAN-6 consists of Brunei, Indonesia, Malaysia, the Philippines, Singapore and Thailand, i.e. the original member countries of ASEAN that signed the Bangkok Declaration of 1967, plus Brunei, which joined ASEAN in 1984 after independence.

set  $E_C$  can be assumed to consist of the realistic export opportunities in a scenario where all trade barriers are removed.

Not applying Filter 3.2 leads to 6,847 REOs in the RCEP countries for an estimated export potential of 112,543 million US\$. Compared to the baseline scenario the number of REOs thus increases with 75 % and the total value of Thailand's export potential with 25 %. It should be stressed that we are not that much interested in the estimated value of potential exports, as in how this is different from the ASEAN+6 baseline, as well as in the composition of the set of REOs and how different this is from the composition in the baseline scenario.

**Table 4.**

*Thailand's Actual and Potential Exports in the RCEP Countries: Full-Trade Liberalization and Accessibility Scenario.*

Country	No. of REOs	Realistic Export Potential to Target Market(s) (x1000 US\$) (1)	Increase in No. of REOs (%)	Increase in Export Potential to Market(s) (%)
Total in RCEP	6,847	112,542,753.25	75.2%	25.0%
Australia	467	5,716,163.12	94.6%	40.5%
Brunei Darussalam	192	34,668.06	10.3%	4.0%
Cambodia	359	215,877.33	79.5%	111.2%
China	751	40,912,811.26	68.0%	24.7%
India	517	6,243,000.97	61.1%	44.6%
Indonesia	428	5,589,027.17	67.2%	17.6%
Japan	589	15,779,544.57	60.9%	25.2%
Korea, ROK	563	11,698,351.45	84.6%	23.9%
Lao PDR	367	71,740.28	416.9%	306.9%
Malaysia	498	3,907,744.20	73.5%	26.6%
Myanmar	347	529,077.10	125.3%	42.9%
New Zealand	331	469,720.72	100.6%	72.1%
Philippines	336	2,100,070.82	75.0%	30.5%
Singapore	465	13,577,515.57	56.0%	4.4%
Vietnam	637	5,697,440.63	47.8%	61.6%

**Source:** DSM Results.

The most interesting developments of a removal of all entry barriers to traded goods between the RCEP countries are in countries where the number of REOs are increasing a lot, but the export potential in value increasing even more spectacularly, as this will imply that not only the potentials of the realistic export opportunities will shoot up, but that also the export revenue per REO is increasing. As Table 4 shows, this is the case with Thailand's exports to Cambodia and to a lesser extent these to Vietnam. The largest rates of increase are in the Lao market, where the number of REOs increases with 416.9 % and the potential export value with 306.9 %, but where the potential export revenue involved is low. In countries where the potential export revenue is high, like in China, Korea and Japan, the export potential value increases less than the number of REOs, but the export revenue involved is large.

In the scenario of full removal of entry barriers to traded goods between RCEP countries, the Top 20 is as shown in Table 5.

**Table 5.**

*Top 20 of REOs (HS 2-digits) under the Full-Trade Liberalization and Accessibility Scenario.*

Rank	HS2	HS2 Chapter	No. of REOs	Realistic Export Potential to Target Market(s) (x1000 US\$)
		Total (all REOs)	6.847	112,542,753.25
1	HS85	Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles	635	37,744,711.96
2	HS27	Mineral fuels, oils and products of their distillation; bituminous substances; mineral waxes.	48	18,688,882.86
3	HS84	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof.	593	9,863,360.82
4	HS39	Plastics and articles thereof.	346	8,015,790.24
5	HS87	Vehicles (excluding railway or tramway rolling-stock) and parts and accessories thereof.	194	5,990,599.37
6	HS29	Organic chemicals.	185	4,410,623.01
7	HS71	Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof; imitation jewelry; coin.	85	3,573,850.82
8	HS90	Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus: parts and accessories thereof.	178	2,775,898.07
9	HS40	Rubber and articles thereof.	350	2,284,177.08
10	HS73	Articles of iron or steel.	190	1,438,502.90
11	HS74	Copper and articles thereof	58	1,406,870.57

Rank	HS2	HS2 Chapter	No. of REOs	Realistic Export Potential to Target Market(s) (x1000 US\$)
		Total (all REOs)	6.847	112,542,753.25
12	HS03	Fish and crustaceans, mollusks and other aquatic invertebrates	93	1,119,365.26
13	HS21	Miscellaneous edible preparations.	84	949,841.42
14	HS44	Wood and articles of wood; wood charcoal	86	852,088.32
15	HS52	Cotton	227	680,413.52
16	HS17	Sugars and sugar confectionery	61	651,616.63
17	HS54	Man-made filaments	175	625,069.00
18	HS16	Preparations of meat, of fish or of crustaceans, mollusks or other aquatic invertebrates	112	570,634.58
19	HS70	Glass and glassware.	90	545,386.93
20	HS10	Cereals	28	544,257.60

**Table 5.** (continued)

**Source:** DSM Results.

Compared with the baseline scenario (Table 3), it will be seen that the Top 20 is similar but not identical. Some article groups are shifting to positions a bit lower or higher (e.g. vehicles, HS87), which becomes more apparent particularly from the 10<sup>th</sup> rank. Mention can be made of natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof; imitation jewelry; etc. (HS71) that moves to the 7<sup>th</sup> position (coming from the 13<sup>th</sup>). Some products drop from the Top 20, such as paper and paperboard; articles of paper pulp, of paper or of paperboard (HS48, which now ranks 24<sup>th</sup>) or preparations of cereals, flour, starch, or milk; pastrycooks products (HS19, which now ranks 25<sup>th</sup>), while other products appear, such as sugars and sugar confectionery (HS17), preparations of meat, of fish or of crustaceans, mollusks or other (HS16), or glass and glassware (HS70).

Table 6 compares the changes in the number of REOs and the realistic export potential brought about by the removal of all trade barriers between the RCEP countries. Most REOs among the Top 10 show moderate increases in the realistic export potentials involved. Since these increases are going together with larger percentage increases in the number of REOs, the average export potential per REO drops, which should incite the Thai exporters and Thailand's export promotion agency to rather concentrate on the REOs offering the higher export revenue. Some spectacular changes are also apparent. For instance, the number of REOs and the realistic export potential of vehicles and parts (HS87) increases with 113.2 % and 325.7 % respectively. Similarly, but further down on the Top 20 list, mention should be made of the rise in importance of Sugars and sugar confectionery (HS17) and Cereals (HS10).

**Table 6.**

*Changes in the Top 20 of REOs (HS 2 digits) under the Full Trade Liberalization and Accessibility Scenario.*

Change in rank	HS2	HS2 Chapter	Change in	Change in Realistic
			No. REOs (%)	Export Potential (%)
		Total	75.2%	25.0%
0	HS85	Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles	37.1%	7.8%
0	HS27	Mineral fuels, oils and products of their distillation; bituminous substances; mineral waxes.	29.7%	0.6%
0	HS84	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof.	85.9%	27.5%
0	HS39	Plastics and articles thereof.	52.4%	16.7%
3	HS87	Vehicles (excluding railway or tramway rolling-stock) and parts and accessories thereof.	113.2%	325.7%
-1	HS29	Organic chemicals.	56.8%	18.8%
6	HS71	Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof; imitation jewelry; coin.	97.7%	348.8%
-2	HS90	Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus: parts and accessories thereof.	42.4%	39.6%
-2	HS40	Rubber and articles thereof.	46.4%	15.4%
0	HS73	Articles of iron or steel.	91.9%	37.1%
-2	HS74	Copper and articles thereof	45.0%	2.6%
0	HS03	Fish and crustaceans, mollusks and other aquatic invertebrates	27.4%	24.2%
-2	HS21	Miscellaneous edible preparations.	25.4%	1.9%
0	HS44	Wood and articles of wood; wood charcoal	32.3%	11.8%
0	HS52	Cotton	114.2%	28.1%

Change in rank	HS2	HS2 Chapter	Change in	Change in Realistic
			No. REOs (%)	Export Potential (%)
			Total	75.2%
				25.0%
11	HS17	Sugars and sugar confectionery		103.3%
3	HS54	Man-made filaments		222.6%
5	HS16	Preparations of meat, of fish or of crustaceans, mollusks or other aquatic invertebrates		110.4%
				121.3%
3	HS70	Glass and glassware.		83.7%
30	HS10	Cereals		103.3%
				838.7%

**Table 6.** (continued)

**Source:** DSM Results.

## **SOME STRATEGIC IMPLICATIONS**

When considering the changes outlined in the previous section, a warning is in place. REOs in markets where Thailand's market share is small, are more difficult to penetrate further and will require disproportionately more resources, than markets where Thailand's market share is already high. Of the 3,818 REOs of the Top 20 list of Table 6, 20.3 % are about markets where Thailand's market share is high ( $\mu_{\text{Thailand},i,j} \geq 0.5$ ) and 10.9 % where it is intermediately high ( $0.25 \leq \mu_{\text{Thailand},i,j} < 0.5$ ). The realistic export potential of these 3,818 REOs amounts to 102,731.9 million US\$, of which only 3.2 %, and 10.9 % and 6.4 % are about markets where Thailand's market share is high ( $\mu_{\text{Thailand},i,j} \geq 0.5$ ) and where it is intermediately high ( $0.25 \leq \mu_{\text{Thailand},i,j} < 0.5$ ).

**Table 7.**

*Top 20 of REOs (HS 2-digits) under the Full-Trade Liberalization and Accessibility Scenario per Country and Thailand's Market Share.*

Country	Thailand Market Share High ( $\mu_{\text{Thailand},i,j} \geq 0.5$ )		Thailand Market Share Intermediate High ( $0.25 \leq \mu_{\text{Thailand},i,j} < 0.5$ )		Thailand market Share Intermediate Low $0.05 \leq \mu_{\text{Thailand},i,j} < 0.25$	
	No. of REOs	Realistic Export Potential (x1000 US\$)	No. of REOs	Realistic Export Potential (x1000 US\$)	No. of REOs	Realistic Export Potential (x1000 US\$)
Australia	33	379,620.90	31	581,659.40	61	952,052.31
Brunei Darussalam	8	598.46	9	787.61	22	7,923.17
Cambodia	85	51,250.36	23	5,507.80	36	44,850.82
China	36	929,068.91	30	2,051,981.71	130	11,615,907.24
India	34	140,988.96	26	307,244.62	99	1,573,511.47
Indonesia	36	157,456.03	22	265,893.85	68	679,400.91
Japan	54	566,136.19	53	1,401,467.91	119	5,305,259.19
Korea, ROK	21	129,901.09	19	172,897.19	74	1,515,051.88
Lao PDR	174	39,589.89	13	699.46	11	9,710.85
Malaysia	61	320,590.63	44	610,932.44	93	1,165,170.31
Myanmar	91	73,406.97	34	256,537.11	38	75,801.00
New Zealand	19	47,078.74	17	28,890.74	38	128,650.23
Philippines	35	111,178.73	28	144,164.91	48	491,017.47
Singapore	32	123,039.67	21	342,164.60	57	5,175,398.20
Vietnam	55	209,517.68	47	358,227.30	123	920,279.44
Total	774	3,279,423.23	417	6,529,056.65	1,017	29,659,984.50

*Source:* DSM Results.

As is evidenced by Table 7, the RCEP countries offering REOs for which Thailand's market share is already high or intermediately high, are China, Japan, Malaysia and Australia. It is surprising to see that Thailand's high market share REOs in South Korea are relatively small in terms of export potential value.

At this point it is also interesting to consider the export potentials in China again. It was found that in the baseline scenario the potential export value of Thailand's REOs amounted to 32.8 billion US\$ (Table 1), which increases to 40.9 billion US\$ (Table 4) under the full-trade liberalization and accessibility scenario, i.e. an increase with 24.7 %. Recent calculations about China's export potentials under its Belt-and-Road Initiative showed, by comparison, that it amounts in Thailand at 3.9 billion US\$ (Cameron, Cuyvers, Fu & Viviers, 2018). Considering the size of China's market this is far from surprising, but the implication is that Thailand can benefit more from its international trade with China, than vice versa.

This is not the place to go into small details, but some striking examples of market potentials at the product level are worth mentioning. In China, HS85 - Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles represents 36.6 % of the export potential of Thailand's REOs in China (14,965 million US\$ export potential), but only 1 % (of the export potential) of the REOs in HS85 have already achieved a high or intermediately high market share. Similarly, HS87 - Vehicles (excluding railway or tramway rolling-stock) and parts and accessories thereof, represent 5.3 % of the export potential of Thailand's REOs in China, but a dismal 0.1 % (of the export potential) of these HS87 REOs in China have a high market share (none have an intermediately high market share). In contrast, HS84 - Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof, are good for 9.1 % of Thailand's export potential in China, and 33.6 % of the export potential of these HS84 REOs have an intermediately high market share (another 0.6 % have a high market share).

In Malaysia, HS85 - Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles makes up 39.6 % of Thailand's export potential in the country, and 4.5 % of the export potential of the REOs with a high and intermediately high market share. Much brighter category of REOs belong to HS84 - Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof (14.2 % of Thailand's export potential in Malaysia), 87.8 % of Thailand's export potential in this HS category showing a high or intermediately high market share.

In the Australian market, HS27 - Mineral fuels, oils and products of their distillation; bituminous substances; mineral waxes, makes up 40.6 % of Thailand's export potential in the country, but In contrast, 45.3 % of Thailand's export potential of HS87 - Vehicles (excluding railway or tramway rolling-stock) and parts and accessories thereof in Australia (13.7 % of Thailand's export potential in Australia) are about REOs with a high or intermediately high Thai market share.

## CONCLUSION

From our calculations it clearly appears that a full liberalization of trade in goods and a complete removal of all existing barriers to accessibility of Thai exports under a future Regional Comprehensive Economic Partnership agreement, will deliver important benefits for the Kingdom. We reached this conclusion by using the DSM methodology, first identifying Thailand's realistic export opportunities and attempting at making an estimate of the potential export value per opportunity. Under the baseline assumption, we found that there exists for Thailand a lot of export potential in the ASEAN+6, since this export potential is only used for 58.7 %. China offers the largest potential exports, followed by Singapore and Japan. This underutilization of the export potential in the ASEAN+6 is further vindicated by the share of the REOs in markets where Thailand's market share for these products is small, or even negligible (42.4 % based on number of REOs, and 59.4 % based on the estimated export value), which stands in sharp contrast to the share of the REOs in markets where the market share is high or moderately high (26.3 % based on number of REOs, but hardly 8.9 % in value terms). This implies that the ASEAN+6 market offers huge potential, that however, will only be tapped if the country follows a clear and well-defined strategy in the RCEP negotiations and by earmarking enough funds for export promotion in these markets.

Next, we have identified Thailand's REOs under a scenario of complete removal of all existing barriers to accessibility of Thai exports. This scenario is implemented in the DSM by "switching off" the filter that eliminates all possible export opportunities that are due to apparent trade barriers. The thus not-eliminated possible export opportunities of that filter become under this scenario realistic export opportunities. Their number and their estimated export potential, as compared to the baseline scenario, enables a first quantification of these potentials under the complete market accessibility scenario for the ASEAN+6 countries, if agreed in the future RCEP agreement. Strikingly, an additional 6,847 REOs in the RCEP countries (for an estimated export potential of 112,543 million US\$) are found, which, compared to the baseline scenario, represents an increase in the number of REOs with 75 % and of the total value of Thailand's export potential with 25 %. If these REOs are fully tapped, this will lead to particularly spectacular export increases in neighboring Laos and Cambodia, and considerable increases in India, New Zealand and Australia. The increase of the export potentials in China, although offering the largest export potential of all ASEAN+6 countries, is moderate. Moreover, it is found that for many of the Top 20 REOs in China, Thailand has already a large market share. This is also the case in Japan and Singapore.

As compared to the baseline scenario the full liberalization and full accessibility scenario leads to moderate to small increases in the export potential of HS85-Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles, and HS27-Mineral fuels, oils and products of their distillation; bituminous substances; mineral waxes – both are product groups that showed already in the baseline scenario the highest export potential. Particularly striking is the rise in importance of HS87- Vehicles (excluding railway or tramway rolling-stock) and parts and accessories thereof, and HS71-Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof; imitation jewelry; coin.

From our results it can be concluded that in the RCEP negotiations, Thailand should go for full liberalization. However, the negotiations will not lead to full trade liberalization and full accessibility. Even in the most optimistic scenario with the tariff duties between the ASEAN+6 removed, important non-trade barriers will remain that relate e.g., to product standards, custom procedures, etc. Thus, by “switching-off” the DSM filter that tests whether at least one of Thailand’s neighboring countries is exporting a product, which for Thailand is a REO, to a market, does not guarantee full market accessibility. The “revealed absence of trade barriers” in our calculations is merely a proxy that gives an indication of a possible opportunity that might be a realistic one, but not more than that. For instance, Singapore’s logistics and distribution system in Australia or New Zealand (or that of Malaysia in Indonesia) is probably more developed than that of Thailand, thus reducing market accessibility for Thailand exports to these countries. The DSM, obviously, does not allow the implementation of differences between exporting countries in accessibility of target markets, or less than full market accessibility by using the “revealed absence of trade barriers” proxy in the baseline scenario and then assuming a complete absence of trade barriers in the full trade liberalization and full accessibility scenario. More fine-tuned scenarios require the use of data on distance to market, tariff and non-tariff barriers, transport cost and country specific logistics performance (such as the World Bank’s Logistics Performance Index) (see on this Cameron and Viviers, 2017; Cameron, Cuyvers, Fu and Viviers, 2018). This is the subject of future research.

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**RATERS' PERCEIVED INFORMATION ADEQUACY OF  
PERFORMANCE APPRAISAL SYSTEM AND PERFORMANCE MONITORING IN  
THE FOURTH INDUSTRIAL REVOLUTION**

by

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**ABSTRACT**

In the disruptive world, the challenges of the fourth industrial revolution demand raters to have adequate information to assess the ratees' performance. Therefore, what types of information that raters need and what is raters' perception towards the adequacy of performance related information? Based on the information adequacy concept, this study employed the cross-sectional survey design by using questionnaires as the study instrument. The data were collected among 488 First Rater Officers of the Management and Professional Group servicing in Federal Ministries and Departments. The factor analysis results showed that raters needed two types of information, namely information related to (1) performance appraisal system and (2) performance monitoring. The results implied that the majority of raters had adequate information for both types. This study provided significant implications toward Human Resource Managers and raters on the types and adequacy level of information so that the objectivity, fairness, and transparency of appraisal can be achieved.

**KEY WORDS:** Raters, information adequacy, performance appraisal system, performance monitoring, fourth industrial revolution

**INTRODUCTION**

The phenomenon in performance appraisal today "lingers" around the issues of subjectivity, unfairness and lack of transparency that are very complicated and unpredictable. The existence of an objective, fair, and transparent performance appraisal contributes to a more effective human resource management system (Longenecker, Fink, & Caldwell, 2014) and it is deemed as high performing work practices in organisations (Cardy, 2015). However, in the fourth industrial revolution, employers need to have an appraisal as accurate as possible to unleash the potentials of their employees in order to achieve the objectives of the organisations that ultimately brings higher profitability and better reputations to the organ-

isations. For that reason, the person who is going to appraise (raters) needs to have adequate information to appraise their subordinates (ratees) in a justified manner.

Past researchers found that more studies focusing on the raters' perspective regarding performance appraisal related information that raters need to appraise accordingly (Roch, McNall, & Caputo, 2011). This is because raters play important roles in the performance management process (Murphy & Cleveland, 1995; Pulakos & O'Leary, 2011) as the main source reference to provide inputs in the performance appraisal forms (Meriac, Gorman, & Macan, 2015). Raters are the key person to participate in the performance appraisal process and have the responsibility to provide developmental feedback to the ratees, but they feel reluctant to carry out this responsibility (Cardy, 2015). This is due to raters not having adequate information in terms of the implementation of the performance appraisal process and performance monitoring to assist raters in making more justified appraisal (Bol, 2011; Longenecker & Fink, 2011; Rabenu & Tziner, 2016).

In order to produce a more justified appraisal, raters need that information to help them in conducting the performance appraisal process (Brewer & Wells, 2006; Kondrasuk, Crowell, Dillon, Kilzer, & Teeley, 2008). The context for each study is different and thus the type and adequacy level of information that raters need are different depending on the performance appraisal system implemented in respective organisations. With that in mind, this study attempted to answer the questions on what types of information that raters need and to what extent raters have adequate performance related information in the context of Malaysian Public Service that is using the Malaysian Public Service Performance Appraisal System? Thus, the objectives of this study are to (1) identify the types of information that raters need and (2) examine the raters' perceived information adequacy in the context of Malaysian Public Service.

## **LITERATURE REVIEW**

### **Information and Fourth Industrial Revolution**

In the fourth industrial revolution, information was a critical factor in the process of performance appraisal because it was the main source referred by the raters in making a justified appraisal and this complied with the rules on making the performance appraisal process more objective, fair, and transparent (Cheng, Bai, & Li, 2009). This information generated using the big data in the form of reports stored in various stages of the work performance to raised issues, generated decisions, actions or other awareness on the ratees' performance. Consequently, raters were depending on this information when conducting the performance appraisal process (Tversky & Kahneman, 1973, 1974). As a result, a well-justified appraisal promoted effective performance appraisal system and able to achieve the main objective of performance appraisal, that was to improved the performance of the ratees and organisations.

### **Information Adequacy Concept in Performance Appraisal**

In the context of performance appraisal, information adequacy referred to the amount of meaningful organised information that was relevant to help raters to filled up the performance appraisal form (Kumar, 2015; Sheer & Cline, 1995). Hence, information adequacy was measured based on the amount of information that the raters received when conducting the process of performance appraisal, that included performance appraisal system re-

lated information and ratees' performance monitoring (Ahmad, Ismail, & Wan Ismail, 2007). The amount of information was measured based on the raters' perceptions on the adequacy of the relevant information.

### **Information Adequacy in the Context of Malaysian Public Service Performance Appraisal System**

Raters used the performance related information to provide accurate input when conducting appraisal process. Performance information could be in the form of numerical that was objective or qualitative in nature that was subjective (Bol, 2011). This information provided an overview of the ratees' performance that was more holistic (Rabenu & Tziner, 2016). Accordingly, raters should have clear information about the performance appraisal system used and monitoring information on the appraised performance aspects (OECD, 1997). Raters were required to obtain various types of information such as information on performance appraisal procedures (Findley, Giles, & Mossholder, 2000), ratees' work monitoring information (Jawahar, 2005), and information on the performance aspects that were to be appraised (Williams, DeNisi, Blencoe, & Cafferty, 1985).

Raters tend to appraised based on limited information because they had insufficient performance appraisal related information of their ratees (DeNisi & Williams, 1988). The lack of information was where raters had incomplete information on the performance appraisal process and ratees' performance monitoring (Longenecker & Fink, 2011). This inadequacy of information led to uncertainty on the raters' side and other problems in the organisations (Longenecker, Fink, & Caldwell, 2014).

In the event of information inadequacy, the appraisal made by the raters will affect the validity and reliability of the performance appraisal decisions. Raters who did not had sufficient information will resulted in a low level of credibility and reliability compared to the expert or experienced raters when conducting performance appraisal (Roberts, 1998). As a result, raters tend to be less likely to respond or provide feedback when conducting appraisal due to limited information on the ratees' performance.

In the context of Malaysian Public Service, information was defined as information relevant to the aspects of performance such as work output, knowledge, personal qualities, and activities and contributions toward the community (Malaysian Public Service Department, 2009). Raters should be equipped with adequate information on performance appraisal system such as the procedure of conducting appraisal, work performance aspects standard, and ratees' performance monitoring information (Ahmad et al., 2007). Therefore, raters' perceived adequacy of the information was one of the most important factors in performance appraisal so that raters could made more justified appraisal (Bol, 2011; Kondrasuk et al., 2008). For example, if raters appraised based on adequate information, the performance appraisal was perceived as a more justified appraisal compared to raters appraised based on insufficient of information (Armstrong & Baron, 2005).

## **METHODOLOGY**

The aim of this study was to identified the types of information that raters needed and raters' perception on the adequacy of information when conducting performance appraisal on their ratees. This study employed a cross-sectional survey design and the questionnaire was used as the study instrument. The respondents of this research were 488 raters from

the Management and Professional Group serving in the Ministries and Federal Departments in Putrajaya, Malaysia. The population of this research was subjected to the list of raters' names given by the Malaysian Public Service Department and their respective ministries. The raters who met the prescribed criteria were selected randomly to be the sample in this research. The data were tested through Statistical Package for the Social Sciences (SPSS) Version 20.

### **Respondent Profile**

A total of 488 raters were the respondents in this study. The majority of respondents served more than six years in the government sector (85.5%). Most of the respondents had at least six years of experience in conducting performance appraisal as raters (71.3%) and appraised less than 11 ratees under their supervision (85%). A total of 311 respondents or 63.7% had never attended formal training on performance appraisal. In terms of demographics, there were 269 female respondents (55.1%) and 219 male respondents (44.9%) who were age 45 years old and below (85.1%), married (81.4%) and their highest education qualification was bachelor degree (98%).

### **Factor Analysis of Information Adequacy**

The results of the factor analysis for information adequacy yielded two factors with each of the Eigen values 8.363 and 2.327 respectively. The first factor explained 52.3% of the variance value and the second factor explained 14.5% of the variance value for this variable. The first factor had 11 items with factor loading values in the range between .663 and .816, while the second factor had five items with factor loading values in the range between .804 and .852. In addition, the communality values of all items under this variable were within the range between .542 and .775. With reference to the values of factor loading and the values of communality achieved in the factor analysis, no item was dropped. Subsequently, factors involved were labelled accordingly, the first factor labelled as the performance monitoring information adequacy and the second factor labelled as the performance appraisal system information adequacy. The factor analysis results for information adequacy are illustrated in Table 1.

**Table 1.**

*Factor Analysis Results.*

<b>Information Adequacy</b>	<b>Item Description</b>	<b>Factor Loading Values</b>	<b>Communality Values</b>
Performance Monitoring Information Adequacy  Eigen Value: 8.363 Percentage of Variance Explained: 52.3	To what extent you have adequate amount of information regarding ratees' performance monitoring related to the aspect of		
	- networking?	.816	.691
	- communication effectiveness?	.812	.688
	- work output quality?	.802	.681
	- punctuality?	.790	.655
	- work output effectiveness?	.780	.655
	- discipline?	.780	.638
	- managing ability?	.761	.614
	- work output quantity?	.745	.628
	- work knowledge and skills?	.744	.619
	- proactive and innovative?	.740	.596
	- implementation of policies, rules, and administrative instructions?	.663	.542
Performance Appraisal System Information Adequacy  Eigen Value: 2.327 Percentage of Variance Explained: 14.5	To what extent you have adequate amount of information regarding Malaysian Public Service Performance Appraisal System related to		
	- performance appraisal implementation procedures?	.852	.775
	- raters' responsibilities?	.842	.762
	- characteristics of performance appraisal system?	.833	.738
	- guidelines in preparing annual work target?	.818	.713
	- guidelines in filling up the performance appraisal form?	.804	.696

### **Descriptive Analysis**

The results implied that the majority of raters had adequate information for performance monitoring (mean= 3.94, standard deviation = .53) and performance appraisal system (mean= 3.67, standard deviations= .70). The descriptive analysis results for information adequacy are illustrated in Table 2.

**Table 2.**

*Descriptive Analysis Results.*

<b>Performance Monitoring Information Adequacy</b>					
<b>Item</b>	<b>Highly Inadequate</b>	<b>Not Adequate</b>	<b>Barely Adequate</b>	<b>Quite Adequate</b>	<b>Highly Adequate</b>
To what extent you have adequate amount of information regarding ratees' performance monitoring related to the aspect of networking?	.2% (1)	2.7% (13)	7.0% (34)	70.7% (345)	19.4% (95)
To what extent you have adequate amount of information regarding ratees' performance monitoring related to the aspect of communication effectiveness?	.2% (1)	4.5% (22)	9.2% (45)	71.3% (348)	14.8% (72)
To what extent you have adequate amount of information regarding ratees' performance monitoring related to the aspect of work output quality?	.4% (2)	4.9% (24)	9.0% (44)	71.5% (349)	14.2% (69)
To what extent you have adequate amount of information regarding ratees' performance monitoring related to the aspect of punctuality?	.2% (1)	4.1% (20)	8.8% (43)	71.1% (347)	15.8% (77)
To what extent you have adequate amount of information regarding ratees' performance monitoring related to the aspect of work output effectiveness?	.2% (1)	5.9% (29)	11.3% (55)	69.1% (337)	13.5% (66)
To what extent you have adequate amount of information regarding ratees' performance monitoring related to the aspect of discipline?	.2% (1)	2.9% (14)	7.4% (36)	72.1% (352)	17.4% (85)

<b>Performance Monitoring Information Adequacy</b>					
<b>Item</b>	<b>Highly Inadequate</b>	<b>Not Adequate</b>	<b>Barely Adequate</b>	<b>Quite Adequate</b>	<b>Highly Adequate</b>
To what extent you have adequate amount of information regarding ratees' performance monitoring related to the aspect of managing ability?	.2% (1)	5.7% (28)	14.5% (71)	68.5% (334)	11.1% (54)
To what extent you have adequate amount of information regarding ratees' performance monitoring related to the aspect of work output quantity?	0% (0)	4.2% (21)	7.0% (34)	73.0% (356)	15.8% (77)
To what extent you have adequate amount of information regarding ratees' performance monitoring related to the aspect of work knowledge and skills?	.2% (1)	5.5% (27)	11.5% (56)	70.9% (346)	11.9% (58)
To what extent you have adequate amount of information regarding ratees' performance monitoring related to the aspect of proactive and innovative?	.8% (4)	5.9% (29)	13.3% (65)	66.7% (325)	13.3% (65)
To what extent you have adequate amount of information regarding ratees' performance monitoring related to the aspect of implementation of policies, rules, and administrative instructions?	.2% (1)	6.1% (30)	14.5% (71)	68.0% (332)	11.2% (54)

**Table 2.** (continued)

<b>Performance Appraisal System Information Adequacy</b>					
<b>Item</b>	<b>Highly Inadequate</b>	<b>Not Adequate</b>	<b>Barely Adequate</b>	<b>Quite Adequate</b>	<b>Highly Adequate</b>
To what extent you have adequate amount of information regarding Malaysian Public Service Performance Appraisal System related to performance appraisal implementation procedures?	0% (0)	12.9% (63)	11.9% (58)	66.6% (325)	8.6% (42)
To what extent you have adequate amount of information regarding Malaysian Public Service Performance Appraisal System related to raters' responsibilities?	0% (0)	10.0% (49)	10.0% (49)	70.8% (345)	9.2% (45)
To what extent you have adequate amount of information regarding Malaysian Public Service Performance Appraisal System related to characteristics of performance appraisal system?	.4% (2)	15.0% (73)	16.1% (79)	61.9% (302)	6.6% (32)
To what extent you have adequate amount of information regarding Malaysian Public Service Performance Appraisal System related to guidelines in preparing annual work target?	.8% (4)	15.0% (73)	15.6% (76)	59.6% (291)	9.0% (44)
To what extent you have adequate amount of information regarding Malaysian Public Service Performance Appraisal System related to guidelines in filling up the performance appraisal form?	.8% (4)	12.7% (62)	17.4% (85)	60.9% (297)	8.2% (40)

**Table 2.** (continued)

## **IMPLICATIONS**

Theoretically, the results of this study contribute to the use of information adequacy concept in understanding the amount of information that is meaningful and needed by the raters when conducting performance appraisal process. The results of this study also provide significant implications toward Human Resource Managers and raters on the 1) performance monitoring information adequacy and 2) performance appraisal system information adequacy that need to be focus when conducting performance appraisal process in a justified manner to ensure that objective, fair, and transparent performance appraisal can be achieved. Focusing on these two factors may increase the understanding of raters in identifying information required to provide appraisal toward ratees' work performance. Indirectly, this will reduce the ratees' dissatisfaction that question the validity and reliability of the appraisal results. Therefore, this study contributes to 1) identify the information require by the raters when appraising ratees' work performance, such as performance monitoring and performance appraisal system, and 2) examine the raters' perceived performance monitoring information adequacy and raters' perceived performance appraisal system information adequacy in the context of Malaysian Public Service.

## **CONCLUSION**

In conclusion, raters need to have adequate information to assist them in conducting a justified performance appraisal to ensure that the performance appraisal process achieves objective, fair, and transparent in the eyes of the ratees. If raters do not have adequate information about the ratees' performance monitoring results and the performance appraisal system use in that organisation, it may lead to misunderstandings and dissatisfactions among the ratees. This study proposes that the Malaysian government departments to establish a periodic monitoring mechanism through a sustainable system so that the progress of ratees' performance can be monitor and update from time to time. In addition, the exists of a learning database as a source of information in training the raters to be informed raters will provide knowledge to the raters by including examples of appraisal methods, case studies on performance appraisal and lastly online performance appraisal guideline. Raters need to adhere to the life-long learning concept by getting more updated information on how to conduct performance appraisal in a more effective manner using technology, especially in the fourth industrial revolution. Therefore, it requires raters to have this information to link ratees' performance with learning, knowledge management, and innovation in a more objective manner. On the other hand, this information is important to provide ratees with constructive feedbacks with the purpose to develop their knowledge, skills, and attitudes.

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**PRODUCT INNOVATION PERFORMANCE IN  
MALAYSIAN MANUFACTURING FIRMS:  
THE FINANCIAL AND NON-FINANCIAL OUTCOMES**

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**ABSTRACT**

The fourth industrial revolution requires more focus on product innovation. In order to ensure the effectiveness of firms' investment in product innovation, there is a need for firms to measure product innovation performance (PIP). However, there is no consensus on the indicators used for PIP. Based on the knowledge-based view theory, what are the dimensions used to measure PIP in Malaysian manufacturing firms? This research employed the cross-sectional survey design and the questionnaires were distributed to 137 Malaysian manufacturing firms. The factor analysis results showed that the PIP can be distinguished in four dimensions, namely 1) financial performance, 2) product innovativeness, 3) product performance, and 4) product development speed and cost performance. This research provided insights for 1) practitioners regarding the strengths and weaknesses of their product innovation and 2) academicians in mapping effective practices or processes that contributed to PIP.

**KEY WORDS:** Product innovation performance, product innovation financial outcome, product innovation non-financial outcome, Malaysian manufacturing firms

**INTRODUCTION**

Product innovation is crucial for firms' survival in the current dynamic and competitive environment. Product innovation is a “process that includes the technical design, research and development (R&D), manufacturing, management and commercial activities involved in the marketing of a new (or improved) product” (Alegre & Chiva, 2008, p. 317). The success of product innovation allows firms to maintain and expand market share (Baker & Sinkula, 2009), contribute to firms' output, increase investment returns and production efficiency (Reguia, 2014), as well as contribute to long-term sustainability of the organisations in the market (Troy, Szymanski, & Varadarajan, 2001). Ultimately, the improvement in product innovation performance (PIP) increases firms' productivity profit and efficiency, and this leads to improved economic growth and social well-being (OECD, 2013).

The success of product innovation contributes to firm's outputs, such as financial benefits (sales and profits), improving product quality and differentiation, and realising continuance of customer's fidelity that could create value for customers in return (Reguia, 2014). In this respect, the core of product innovation lies at the core of its ability to create value for the firm in return, rather than merely introduce new products in the market. Hence, the assessment of product innovation is essential to determine what the firms have achieved. Particularly, relating to competitive advantage aspects- to create persistent above-normal returns and superior resource value to the firms (Alegre, Lapiedra, & Chiva, 2006; Paladino, 2007). Consequently, this leads to distinguishing between the concept of product innovation and PIP. Product innovation involves a series of activities for new product creation (i.e. a number of new products introduced in the market), whereas, PIP reflects the level of success (value creation for the firms) of the new products that have been introduced to the market (Alegre et al., 2006).

PIP is a broad concept. It measures the success of product innovation, through performance indicators (Cooper & Kleinschmidt, 1987), and this provides information on how well the firms are doing, or whether they are improving or declining in their PIP (Griffin, 1997). By doing so, it provides benchmarking for the firms to find effective practices and processes that contribute to the success of product innovation (Robert, 1989). The success of a new product is not simple or unidimensional, but it is multidimensional and includes several performance indicators (Cooper & Kleinschmidt, 1987). The performance indicators for PIP are presented in many points of view in prior studies. However, there is no consensus on its indicators used to measure PIP (Cooper & Kleinschmidt, 1987; John & Snelson, 1988; Alegre et al., 2006; Hannachi, 2015). This study attempts to define and operationalise the concept of PIP in Malaysia's manufacturing sector thus providing insight for practitioners regarding their strengths and weaknesses of their product innovation. On top of that, this provides insight for academicians in mapping effective practices or processes that can contribute to the success of product innovation.

## **LITERATURE REVIEW**

### **Product Innovation Performance Measurements**

Knowledge-based view (KBV) indicates that innovation contributes to generating economic rent and sustainable competitive advantage. In this regard, product innovation is defined as the "value added of a product to fulfil the objectives of product innovation, such as shortening the product lifespans, diversifying the product portfolios, technically and aesthetically changing products as well as increasing or sustaining product market shares" (OECD, 2005, p. 107).

PIP refers to the assessment of the impact of product innovation on a firms' competitive advantage; or survival; or success of businesses (Wei & Atuahene-Gima, 2009; Atuahene-Gima & Wei, 2011). Current studies indicate that PIP is a multidimensional concept rather than a unidimensional concept because product innovation is a better measure in a multidimensional context since it can enhance the ability to access reliability, capture broader, new product performance domains and ensure a common reference for decision-making (Henard & Szymanski, 2001). Also, PIP can be defined in different ways due to the different perspectives and classification of the level of its impact on a firm (Marsh & Stock, 2003; Paladino, 2007; Millson, 2015). The impact can be market rewards for new products - in terms of objective financial outcomes or subjective financial and non-

financial outcomes (Evanschitzky, Eisend, Calantone, & Jiang, 2012; Zhang, Benedetto, & Hoening, 2009).

Basically, the objective financial outcome measures the degree of market rewards for a new product (in numbers), such as new products' sales or profit, new products' return on investment and new products' market shares (Kohler, Sofka, & Grimpe, 2012; Tsai, 2009). This type of measurement is essential to capture the outcome of product innovation. However, it also suffers the limitation in accessing the confidential financial data of companies (Henard & Szymanski, 2001; Lily Julienti Abu Bakar & Hartini Ahmad, 2010). Also, obtaining only financial information in accessing PIP may perhaps overlook other aspects related to the impact of product innovation on firms (Henard & Szymanski, 2001). Moreover, Chang, Chen, and Lin (2014) stated that objective measures for PIP, particularly financial data, are often inaccurate, unavailable and less useful when companies access the various subjective strategic implications such as customer satisfaction.

The shortcoming of this approach leads to the introduction of subjective product innovation measurement. The subjective measure is a self-assessment method that captures the PIP of the firm through the information provided, expert or representative in survey studies (Becheikh, Landry, & Amara, 2006). Although self-assessment methods tend to be subjected to human error or bias, as well as low response rates, this approach is popular due to widely covered subjective constructs that are likely to reveal significant and reliable perceptions from practitioners regarding product performance in the firm (Zhang, Wu, & Cui, 2015). The subjective measure covers a wide range of product innovation success in a firm about its stated objective or comparative with the competitors.

PIP is endeavoured to achieve greater product quality, market share, profit, as well as, shorten product development time or period (Alegre et al., 2016). Interestingly, to capture the value of "greater", product innovation measurement suggested by past researchers allow a firm to compare its performances with their stated objectives, as well as, to benchmark with other firms (Zhang et al., 2015). Implicitly, this leads to a better understanding of a firm's achievement, corresponding to the extent of the strengths and weaknesses of given product innovation (Hannachi, 2015).

In the strategic management field, KBV underlined the impact of innovation on a firm's competitive advantage. In this regard, product innovation, if necessary, needs to lead to financial and market value. Financial dimensions in product innovation measure the degree to which an organisation reaches its new product development goals (Zhang et al., 2015). Likewise, McNally, Cavusgil, and Calantone (2010) contended that successful product innovation has to lead to financial improvement for a firm. Prior research suggested the measurement scales in financial dimensions include new product sales, a product's return on investment and profit margins about its stated objectives or to other range of products (Brettel & Cleven, 2011; Tsai, Hsu, & Fang, 2012; Tavani, Sharifi, Soleimanof, & Najmi, 2014).

According to KBV, the firm innovates to gain greater economic rent and sustainable competitive advantage. In this regard, product innovation is essential for the firm not only of its economic or financial prospect but also include market success, ability to provide valuable and unique product in terms of greater functionality value and greater novelty product value for a firm to achieve sustainable competitive advantage. In this regard, the non-

financial success of product innovation should be considered in measuring product innovation performance.

For the non-financial success of product innovation, it involves the technical performance and market performance of the new products. The technical performance of products should be measured in the context of how well the new product achieved the functionality desired and produce greater quality in comparing with external competitors or a firm's existing products (Lin, Chen, & Huang, 2013). Therefore, the technical dimension includes the improvement in product quality, good aesthetic definition, better quality compared to competitors, better quality compared to a firm's other products, and met target functionality objectives (Griffin, 1997; Alegre et al., 2006; Maravelakis, Bilalis, Antoniadis, Jones, & Moustakis, 2006; Lin et al., 2013; Hannachi, 2015).

Successful product innovation is essential to enhance the opportunity to a new market, and improve market positions (Zhang et al., 2015). The measurement scales in market dimensions include product's market shares and penetration of the new market, and market position for the product as compared to the other firms or the set target objectives. Regarding this dimension, researchers stated, the evaluation of successful product innovation in market dimension is "distinguished from the marketing innovation" (OECD, 2005, p. 49). In this regard, the introduction of a new product is viewed as a direct impact in improving market position and enhancing opportunities to a new market, rather than to introduce new marketing methods to address better market opportunities and market positions.

Some authors include customers' perceived value on a product (customer satisfaction, complaint and loyalty) to evaluate the success of products in the market (Griffin, 1997; Zhang, et al., 2015; Hannachi, 2015). This dimension is essentially contributed to evaluating the sustainability of new products in the market. Apart from the stated dimensions, some authors have proposed an evaluation of PIP based on the level of novelty (Brettel & Cleven, 2011; Tavani et al., 2013). Indeed, a measure of novelty levels reflects the level of extent of a new product achieved at firm-level, market-level as well as at industry-level.

In conclusion, PIP reveals the success of new products introduced by firms. Unlike product innovation, PIP constitutes the very end of the innovation process. The commercialisation of a new product does not indicate the direct success of a firm in innovation studies. Thus, to capture the commercial impact of product innovation, implementation of the new product should be accessed in its' impact on firm' performance based on both financial and non-financial performance. In this study, the researcher proposed to combine both financial and non-financial dimensions for PIP measures.

## **METHODOLOGY**

PIP is measured with dimensions, namely, financial and non-financial dimensional PIP measures. Fundamentally, innovation is a continuous activity (Fagerberg, 2004). Therefore, it is essential to measure product innovation based on the observation period. OECD (2005) provided the guideline on the observation period for questions on innovation which "should not exceed three years nor be less than one year" (pp. 129-130). Based on the OECD proposed guideline, the researcher sets a three-year-observation period in examining the effects of PIP for this study. Furthermore, the current study used a benchmarking way of measuring PIP. Typically, benchmarking is a method that is useful in comparing a firm's performance relative to average or other firms (Maravelakis et al., 2006).

Intensively, benchmarking enables a firm to better understand the gaps between current practices and performance with competitors, its target objectives, or other similar practices in a firm, and this allows a firm to develop improvement actions (Maravelakis et al., 2006; OECD, 2005). Moreover, benchmarking enables the researcher to distinguish the performance of firms compared to its competitors, its target objectives, or other similar practices in a firm (Coulter, Baschung, & Bititci, 2000).

Current study uses a ‘seven-point Likert-type scale’ format in measuring a firm’s PIP, following several prior researchers that also measure PIP in ‘seven-point Likert-type scales’ (Alegre et al., 2006; Lin et al., 2013; Tavani et al., 2013; Tsai et al., 2011). However, few prior researchers used ‘five-point Likert-type scales’ (Hannachi, 2015), while a few used ‘ten-point Likert-type scales’ (De-Luca & Atuahene-Gima, 2007). For standardisation purposes, this study measured all items in PIP using a ‘seven-point Likert-type scale’. In this study, measurements of financial and non-financial PIP are illustrated in the following tables.

**Table 1.**

*Items on Financial Product Innovation Performance.*

<b>Sources</b>	<b>Items</b>
Tsai et al. (2012)	To what extent your firm met the following goals for the new or improved product introduced during the past three years period: <ol style="list-style-type: none"> <li>1. Achieve sales goals relative to the stated objectives.</li> <li>2. Achieve profit goals relative to the stated objectives.</li> <li>3. Achieve market share growth relative to the stated objectives.</li> <li>4. Achieve sales growth relative to the stated objectives</li> </ol>

**Table 2.**

*Items on Non-Financial Product Innovation Performance.*

Sources	Items
Garcia & Calantone (2002); Lin et al. (2013); Hannachi (2015)	<p>To what extent your firm met the following goals for the new or improved product introduced during the past three years period:</p> <ol style="list-style-type: none"> <li>1. The product met the stated performance specification.</li> <li>2. The product provided a better quality compared to the past similar type of product.</li> <li>3. The product provided a better quality compared to competitors of a similar type of product.</li> <li>4. The product development cost met the stated objectives.</li> <li>5. The product is launched within the stated deadlines.</li> <li>6. The product is launched in a relatively shorter time than competitors.</li> <li>7. The product improved customer satisfaction.</li> <li>8. Customers perceived that the product is more reliable compared to competitors' product.</li> <li>9. The product improved customer loyalty.</li> <li>10. The product is new to your firm's technology know-how.</li> <li>11. The product is new to your firm's market know-how.</li> <li>12. The product is new to your industry technology know-how.</li> <li>13. The product is new to your industry market know-how.</li> </ol>

## **FINDINGS**

The results of factor analysis for PIP shows that the item ab5 has high cross-loading between the financial component and non-financial C1 component with the factor loading value of .602 and .477 respectively. According to Hair, Black, Babin, & Anderson (2010), factor loading value of greater than  $\pm .500$  is considered necessary for practical significance. For the item ab5, the cross-loading value of .477 is close to .500, and this indicates that the value of factor loading is considered to be significant in the dataset. In this extent, Hair et al. (2010) suggested that the researcher should find the different rotation methods to eliminate any cross-loadings and thus defined as a simple structure.

According to the suggestion by Hair et al. (2010), the researcher runs the factor analysis again with the OBLIQUE rotation - OBLIMIN rotation method to find a more simplified factor loading matrix. The result shows that the item ab5 still has the cross-loading problem with the factor value of .410 for the financial component and - .545 for the non-financial component C1. The result suggested that item ab5 is an item for deletion. Moreover, deletion of item ab5 also provides a clear definition of the financial component because this component originally does not include the item ab5. After the deletion of item ab5, the researcher runs again the factor analysis using the VARIMAX rotation method and the result is illustrated in Table 3.

**Table 3.***Summary of Exploratory Factor Analysis Result for Product Innovation Performance.*

Items	Descriptions	Factor Loading			
		Financial	Non-financial		
			C1	C2	C3
aa1	Achieve sales goals relative to the stated objectives.	.939			
aa3	Achieve market share growth relative to the stated objectives.	.918			
aa4	Achieve sales growth relative to the stated objectives.	.907			
aa2	Achieve profit goals relative to the stated objectives.	.897			
ab16	The product is new to your industry technology know-how.		.909		
ab17	The product is new to your industry market know-how.		.890		
ab15	The product is new to your firm's market know-how.		.828		
ab14	The product is new to your firm's technology know-how.		.816		
ab7	The product provided a better quality compared to competitors of a similar type of product.			.819	
ab12	Customers perceived that the product is more reliable compared to the competitors' product.			.789	
ab11	The product has improved customer satisfaction.			.738	
ab13	The product improved customer loyalty.			.704	
ab6	The product provided a better quality compared to past similar type of product.			.697	
ab9	The product is launched within the stated deadlines.				.851
ab10	The product is launched in a relatively shorter time than competitors.				.815
ab8	The product development cost met the stated objectives.				.628
	<b>Eigenvalues</b>	7.063	2.542	1.870	1.176
	<b>% of variance</b>	44.14	15.89	11.69	7.35
	<b>Cronbach's Alpha</b>	.959	.923	.890	.783
	<b>Kaiser-Meyer-Olkin</b>	.834			
	<b>Bartlett's Test of Sphericity</b>	1885.010			
	<b>Df. (sig.)</b>	120 (p<.001)			
	<b>Cumulative variance %</b>	79.07			

Intensively, the result of factor analysis, after the deletion of item ab5, has a clean rotation with the entire high factor loading on the specific component. There are no cross-loading values with more than .400 and all the communality values are above the threshold value of .500 as suggested by Hair et al. (2010). Furthermore, Williams, Onsman & Brown (2010) suggested that the measure of sampling adequacy (MSA) and Bartlett's test of sphericity of PIP also show the value (MSA > .500) and (sig. < .05). Thus, it indicates that the sufficient correlation among the variables in the dataset and it is appropriateness for factor analysis. On the other hand, to confirm the uni-dimensionality of the extracted component, Price and Mueller (1986) and Nunnally (1994) suggested should reach a threshold value of .600. Table 3 shows Cronbach's Alpha value of all components reaches the threshold value, thus, indicates that the uni-dimensionality of the extracted components. Moreover, the result shows that PIP has four components that accounted for 79.07% of variance explains for the PIP. The first component-financial accounted for 44.14% variance for the variable, whereas the second component-non-financial C1 accounted for 15.89% variance for the variable. On the other hand, the non-financial C2 explains 11.69% variance for the variable, whereas, the non-financial C3 only explains 7.35% variance for the PIP.

Factor analysis can be used for determining the structure or relationship between variables (Williams et al., 2010). In this study, items for the financial dimension for PIP are loading highly among each other. However, the non-financial dimension of PIP shows additional extracted components (refer Table 3). There are three components extracted under the non-financial dimension. The non-financial C1 with four items (aa1, aa2, aa3, aa4), the non-financial C2 with four items (ab14, ab15, ab16, ab17), and the non-financial C3 with three items (ab8, ab9, ab10). The increase of the extracted components indicates the need to re-specify the factor model.

The non-financial C1 has the combination of items that show the product innovativeness and thus renaming this component as product innovativeness. On the other hand, non-financial C2 has the combination of items that show both technical performance and market performance and thus renaming the component as product performance. Product performance is defined as the product performance regarding the quality and the market performance of a new product. Finally, the non-financial C3 has the combination of items that show the development speed and cost performance, thus, renaming the component as the speed and cost performance. In essence, the PIP components are indicated in Table 4.

**Table 4.**

*Dimensions of Product Innovation Performance.*

<b>Components</b>	<b>Items</b>
Financial performance	aa1-Achieve sales goals relative to the stated objectives. aa2-Achieve profit goals relative to the stated objectives. aa3-Achieve market share growth relative to the stated objectives. aa4-Achieve sales growth relative to the stated objectives.
Product innovativeness	ab14-The product is new to your firm's technology know-how. ab15-The product is new to your firm's market know-how. ab16-The product is new to your industry technology know-how. ab17-The product is new to your industry market know-how.
Product performance	ab6-The product provided better quality compared to the past similar type of product. ab7-The product provided better quality compared to the competitor of a similar type of product. ab11-The product improved customer satisfaction. ab12-Customers perceived that the product is more reliable compared to the competitors' product. ab13-The product improved customer loyalty.
Product development speed and cost performance	ab8-The product development cost met to the stated objectives. ab9-The product is launched within the stated deadlines. ab10-The product is launched in a relatively shorter time than competitors.

## **IMPLICATIONS**

Product innovation is a complex activity, thus it is not an easy task for the firms. Indeed, product innovation is always associated with high uncertainty and high failure rate (Cooper & Kleinschmidt, 1987; Griffin, 1997; Evanschitzky et al., 2012). According to Cooper & Edgett (2009), it is on average 44% of product development projects fail to achieve their financial target, and almost half of new product launches are late to the market. Therefore, a firm that introduces a new product to the market does not necessarily obtain the desired outcomes.

Consequently, studies on product innovation should indicate the outcome of product innovation, so that firms can perceive the impact of this innovation on their firm's performance. PIP is to measure the impact of product innovation. However, PIP is loosely defined and therefore, the measurements of PIP are heterogeneous across the literature. The current study contributes to defining PIP in Malaysia's manufacturing sector. This helps firms to access the performance of their product innovation and also helps to provide insight for academicians in mapping effective practices or processes that can contribute to the success of product innovation in the manufacturing sector.

## **CONCLUSION**

Product innovation serves as a key factor for successful market entries (according to Schumpeter growth model-creative destruction), thus creating a competitive advantage for firms to penetrate in the competitive export market with their differentiated products (Tavassoli, 2013). In addition, product innovation is attractive to manufacturers due to its short-term benefits, such as financial return, and long-term benefits such as sustainability of the firms in the market (Johne & Snelson, 1988) - if the managers are more astute at "selecting new product winners, and at effectively managing the new product process from product idea through to launch" (Cooper & Kleinschmidt, 1987, p. 215). This study has contributed to redefining the concept of PIP in the manufacturing sector and this allows firms to obtain a better picture of the actions and effects of product innovation activities of the firms.

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**THE RELATIONSHIP OF  
THE NATIONAL ELDERLY PLAN AND THE AGING SOCIETY**

by

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**ABSTRACT**

This study aimed to examine the relationship of the national elderly plan and aging society, including ( 1) the important measures, and (2) the relationship of the important measures of the national elderly plan and the aging society. A total of samples was 218 elders in Prasat Tong Municipal District. Questionnaires were used as a data collection tool. Statistics used in data analysis included frequency, percentage, standard deviation and multiple regression analysis. The results revealed that: (1) the important measures to support the implementation of the National Elderly Plan were at the high level ( $x = 4.175$ , S.D. = .582), and those to support the important measures of the National Elderly Plan and the aging society were at a high level. ( $x = 4.254$ , S.D. = .615), and (2) strategy on the social safeguards for the elders which were positive factors to the level of advancement into aging society.

**KEY WORDS:** Relationship, the national elderly plan, aging society

**INTRODUCTION**

The United Nations has assessed the situation that the years 2001-2100 will be the century of the elderly aged 60 years and over, representing more than 10% of the world population. There is a trend that the elderly will be socially and economically poor people. Each country must have a supporting plan. Thailand has been classified as a country with the elderly society since 2005. Office of the National Economic and Social Development Council forecasts Thai population structure is transitioning into an aging society. Thailand will have the elderly one-fourth of the nation's population and will be moving toward a complete aging society during the year 2008-2028. The proportion of the population aged

60 years and over will increase from 11.1 percent to 23.5 percent or one fourth of the nation's population.

The government sector has transformed policies and strategies into action plans in response to the problems and the needs of the elderly by preparing the National Elderly Plan Number 2 (2002-2021) to determine guidelines and integrate development plans, policy guidelines, strategic policy as well as proactive public guidance. There are clear measures, defined KPIs and targets, including the milestone that the targets of "aging society" should be effectively achieved in order for the aging society more productive, to maintain the national GDP and reduce dependency on the labor population at the same time.

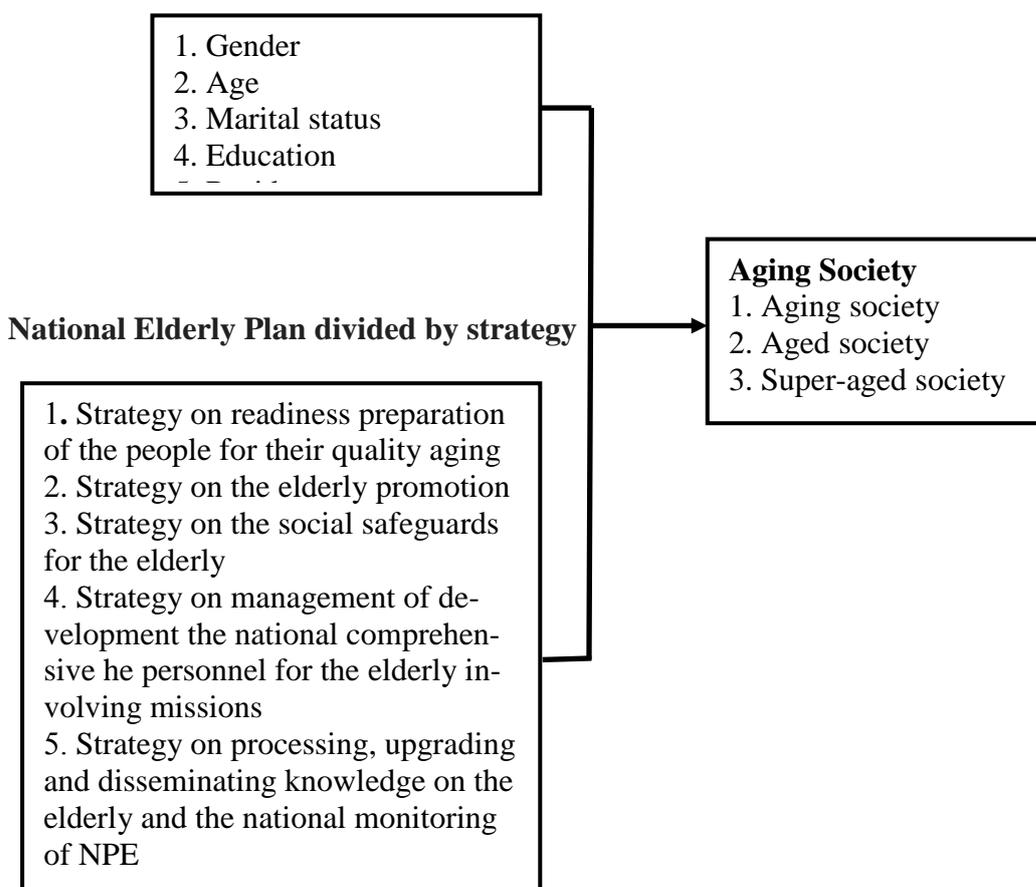
Therefore, the researchers studied the relationship of the national elderly plan and the elderly society. Case study: "Prasat Tong Municipal District Bang Pa-in District Phra Nakhon Si Ayutthaya Province by using the National Elderly Plan Number 2 as a measure to support the elderly society in all three levels (aging society, aged society and super-aged society). To provide people with adequate retirement income. The elderly have suitable housing and the opportunity to continue working, which will help to enhance life insurance for people. Reducing social inequality and alleviate the government budget burden on long term welfare.

### **OBJECTIVES**

1. To identify the level of important measures to support and the level of the important aging society to implement the National Elderly Plan in Prasat Tong Municipal Bang Pa-in District Phra Nakhon Si Ayutthaya Province.
2. To describe the relationship of measures to support the aging society and the level of important aging society to implement the National Elderly Plan in Prasat Thong Municipal Bang Pa-in District Phra Nakhon Si Ayutthaya Province.

## CONCEPTUAL FRAMEWORK

### General information of respondents Aging Society



## HYPOTHESIS

1. The municipality can manage measures according to the elderly plan to support the aging society.
2. The municipality can know the needs of the elderly at various levels.

## METHODOLOGY

### Design and Sample

The cluster random sampling used in this study consisted 466. The samples were 218 elders in Prasat Tong Municipal District Bang Pa-in District Phra Nakhon Si Ayutthaya Province which determined by R.V.Krejcie and D.W.Moorgan

### Instrument

Tools of collection data are questionnaires with four parts and interviewing executives and community leaders.

Part 1: General information of the elders

Part 2: Measures to support the aging society

Part 3: Aging society

Part 4: Recommendations and guidelines for measures to support the aging society

### **Data Collection**

Data collection by 218 questionnaires from the elders in Prasat Tong Municipal District Bang Pa-in District Phra Nakhon Si Ayutthaya Province. Then, the data collected were analyzed by multiple regression analysis.

### **Analysis of the Data**

Descriptive statistics analysis to determine characteristic of distribution in each variable by using basic statistics, the percentage, frequency value, average, and standard deviation values.

Multiple regression analysis to support National Elderly Plan divided by strategy and the aging society.

## **RESULTS**

The levels of analysis important measures to support the National Elderly Plan in the strategy on readiness preparation of the people for their quality aging from table 1 were 4.225 at high level. Measures on the income security for old age were 4.317 at high level. Measures on raising social conscience on the respect for and recognition of the elderly valuable contribution and dignity were 4.183 at high level. The least was measures on education and lifelong learning were 4.174 at high level. The details of each question found that the income guarantee for the elderly.

**Table 1.**

*Priority Measures to Support the National Elderly Plan with the Elderly Society.*

<b>Variables / Indicators</b>	$\bar{X}$	<b>SD.</b>	<b>Level</b>
Strategy on readiness preparation of the people for their quality aging			
• Measures on the income security for old age	4.317	.795	High
• Measures on education and lifelong learning	4.174	.835	High
• Measures on raising social conscience on the respect for and recognition of the elderly valuable contribution and dignity	4.183	.822	High
Total	4.255	.692	High

The levels of analysis important measures to support the National Elderly Plan in the strategy on the elderly promotion and development from table 2 were 4.200 at high level. Measures on health promotion, prevention against disease and primary self-care were 4.266 at high level. Measures on promotion and provision of their enabling and friendly housing and environment were 4.252 at high level. Measures on encouraging of groups joining and strengthening the elderly representative organizations 4.225 at high level. Measures on promotion of employment and income of the elderly and measures on promotion and support of all classes of the mass media to include the elderly involving programmes and support the elderly to access knowledge and data, information and news were 4,170 at high level. The least was measures on promotion of the skillful elderly were 4.119 at high level.

**Table 2.**

*Priority Measures to Support the National Elderly Plan with the Elderly Society.*

<b>Variables/Indicators</b>	$\bar{X}$	<b>SD.</b>	<b>Level</b>
Strategy on the elderly promotion and development			
• Measures on health promotion, prevention against disease and primary self-care	4.266	.755	High
• Measures on encouraging of groups joining and strengthening the elderly representative organizations	4.225	.768	High
• Measures on promotion of employment and income of the elderly	4.170	.770	High
• Measures on promotion of the skillful elderly	4.119	.746	High
• Measures on promotion and support of all classes of the mass media to include the elderly involving programmes and support the elderly to access knowledge and data, information and news	4.170	.816	High
• Measures on promotion and provision of their enabling and friendly housing and environment	4.252	.759	High
<b>Total</b>	4.200	.643	High

The levels of analysis important measures to support the National Elderly Plan in the strategy on the social safeguards for the elderly from table 3 were 4.387 at high level. Measures on income security were 4.537 at the highest level. Measures on health security were 4.518 at the highest level. Measures on their families, caregivers and protection were 4.335 at high level. The least measures on the service system and supportive networks were 4.161 at high level.

**Table 3.**

*Priority Measures to Support the National Elderly Plan with the Elderly Society.*

<b>Variables/Indicators</b>	$\bar{X}$	<b>SD.</b>	<b>Level</b>
Strategy on the social safeguards for the elderly			
• Measures on income security	4.537	.719	The Highest
• Measures on health security	4.518	.693	The Highest
• Measures on their families, caregivers and protection	4.335	.745	High
• Measures on the service system and supportive networks	4.161	.807	High
Total	4.387	.655	High

Analysis results of importance levels measures to support the National Elderly Plan in the strategy on management of developing the national comprehensive system for undertakings and developing the personnel for the elderly involving missions from table 4 were 4.046 at high level. Measures on management of developing the national comprehensive system for the elderly involving undertakings and measures on promoting and supporting personnel on the elderly were 4.046 at high level.

Table 4.

*Priority Measures to Support the National Elderly Plan with the Elderly Society.*

<b>Variables / Indicators</b>	$\bar{X}$	<b>SD.</b>	<b>Level</b>
Strategy on management of developing the national comprehensive system for undertakings and developing the personnel for the elderly involving missions			
• Measures on management of developing the national comprehensive system for the elderly involving undertakings	4.046	.824	High
• Measures on promoting and supporting personnel on the elderly	4.046	.813	High
Total	4.046	.813	High

The levels of analysis important measures to support the National Elderly Plan in strategy on processing, upgrading and disseminating knowledge on the elderly and the national monitoring of implementation of NPE from table 5 were 4.018 at high level. Measures to develop the elderly information in a systematic and modern were 4.041 at high level. Measures on upgrading and updating the database whereby the significant elderly database shall be accessible and easy for searching were 4.023 at high level. Measures on encouraging and supporting gerontology researches for the purpose of formulating policies and developing services and undertakings useful to the elderly were 4.014 at high level. The least was measures on the consecutive and effective monitoring of NPE were 3.995 at high level.

**Table 5.**

*Priority Measures to Support the National Elderly Plan with the Elderly Society.*

<b>Variables/Indicators</b>	$\bar{X}$	<b>SD.</b>	<b>Level</b>
Strategy on processing, upgrading and disseminating knowledge on the elderly and the national monitoring of implementation of NPE			
• Measures on encouraging and supporting gerontology researches for the purpose of formulating policies and developing services and undertakings useful to the elderly.	4.014	.811	High
• Measures on the consecutive and effective monitoring of NPE.	3.995	.832	High
• Measures on upgrading and updating the database whereby the significant elderly database shall be accessible and easy for searching	4.023	.800	High
• Measures to develop the elderly information in a systematic and modern	4.041	.822	High
Total	4.018	.746	High

## **DISCUSSION AND CONCLUSION**

The sample group was the elderly in Prasat Thong Municipality District. Bang Pa-in District Phra Nakhon Si Ayutthaya Province. The total numbers of 218 elderly were 132 female and 86 male. There were 133 people which aged between 60 - 69 years, 117 marital status, 194 undergraduates and 189 residents living with their families. The total of 5 numbers of family member was 49 and 80 of household's income per month between 10,001-20,000 baht.

The sample group that responded to the questionnaire on strategy on readiness preparation of the people for their quality aging was at high level. Strategy on the elderly promotion was at high level. Strategy on the social safeguards for the elderly was at high level. Strategy on management of developing the national comprehensive system for undertakings and developing the personnel for the elderly involving missions were at high level. Strategy on processing, upgrading and disseminating knowledge on the elderly and the national monitoring of implementation of NPE were at high level. Aging society, aged society and super-aged society were at high level.

Strategy on the social safeguards for the elderly had positive factors to the level of aging society with statistical significance at .01 levels and a regression coefficient of .344. Strategy on management of developing the national comprehensive system for undertakings and developing the personnel for the elderly involving missions had positive factors to the level of aging society with statistical significance at the level of .01 and a regression coefficient equal to .240. As well as research Kanita Khongbanthat and Prachasan Sanphakdee (2014) a study welfare needs of elderly from local governments in Banhad Municipality, Banhad District, Khonkean Province. It found that the organization elderly welfare has all located the full number 5, which is consistent with the needs of the elderly with 4 sides and one side is not resort canals health. Elderly need welfare is to provide training to health care for the elderly. The welfare of the elderly of the local government is to transfer emergency patients and patients with chronic diseases.

The marital status had positive factor on the level of aged society, with a statistical significance at .05, with a regression coefficient equal to .142. As well as research Kampon Kamsritong (2012) demand for receiving welfare of elderly in Sikao subdistrict municipality, Sikao district, Trang province. It found that the cost of the services was affected to considering the welfare needs of the elder. The lower cost of services made more needs. The elder with higher income had lower welfare needs than the elder with lower income.

Strategy on the social safeguards for the elderly had positive factor in the level of aged society with a statistical significance at .05 with a regression coefficient of .205. Strategy on management of developing the national comprehensive system for undertakings and developing the personnel for the elderly involving missions had positive factor in the level of aged society with complete statistical significance at the level of .01 with a regression coefficient equal to .253. As well as research Kanita Khongbanthat and Prachasan Sanphakdee (2014).

Gender had positive factor to the level of super-aged society with statistical significance at .01 level with a regression coefficient equal to .169. The marital status had a positive factor in the level of the elderly society at a significant level of .01 with a regression coeffi-

cient equal to .217. As well as research Kampon Kamsritong (2012) if the elderly had marital status, marriage, the elderly must have more social welfare requirements.

Strategy on readiness preparation of the people for their quality aging had positive factor to the level of super-aged society at a significant level of .05 with a regression coefficient equal to .224. As well as research Kanita Khongbanthat and Prachasan Sanphakdee (2013); knowledge management and elderly care.

Strategy on processing, upgrading and disseminating knowledge on the elderly and the national monitoring of implementation of NPE had positive factors to the level of super-aged society with statistical significance at the level of .01, with regression coefficients equal to .233. As well as research Ekapit Chinakai (2014) readiness of community for becoming an elderly communities in Loungnauae municipality, Doisakaet district, Chiangmai province, Thailand. Education focuses on enhancing knowledge and understanding, attitudes to realize the value of the elderly and the preparation for aging society.

## **SUGGESTIONS**

Result of analysis, the researcher suggested that Prasat Thong Municipality Bang Pa-in District Phra Nakhon Si Ayutthaya Province should follow National Plan on the Elderly (NPE) (2002-2021);

1. Strategy on readiness preparation of the quality ageing
2. Strategy on the elderly promotion and development
3. Strategy on the social safeguards for the elderly
4. Strategy on management of developing the national comprehensive system for undertakings and developing the personnel for the elderly involving missions and
5. Strategy on processing, upgrading and disseminating knowledge on the elderly and the national monitoring of implementation of NPE in the long term.

Prasat Thong Municipal District should focus on strategy on processing, upgrading and disseminating knowledge on the elderly and the national monitoring of implementation NPE;

- 1.1 Measures on encouraging and supporting gerontology researches for the purpose of formulating policies and developing services and undertakings useful to the elderly.
- 1.2 Measures on the consecutive and effective monitoring of NPE.
- 1.3 Measures on upgrading and updating the elderly database whereby the significant elderly database shall be accessible and easy for searching. The knowledge of the elderly that are necessary for policy formulation and development of services or operations that are beneficial to the elderly.
2. Prasat Thong Municipal District should focus on strategy on management of developing the national comprehensive system for undertakings and developing the personnel for the elderly involving missions; 1) Measures on management of developing the national comprehensive system for the elderly involving undertakings and 2) Measures on promoting and supporting personnel on the elderly.
3. Prasat Thong Municipal District should focus on providing knowledge on strategies for preparing the population for the elderly. Measures on promotion and support of

all classes of the mass media to include the elderly involving programmes and support the elderly to access knowledge and data, information and news, measures on promotion of employment and income of the elderly and measures on promotion of the skillful elderly.

4. Prasat Thong Municipal District should focus on strategy on readiness preparation of the people for their quality ageing. Measures on education and lifelong learning, and measures on raising social conscience on the respectfulness for and recognition of the elderly valuable contribution and dignity and measures on the income security for the elderly.
5. Prasat Thong Municipal District should focus on strategy on the social safeguards for the elderly. Measures on the service system and supportive networks. Measures on their families, caregivers and protection. Measures on health security and measures on income security.

Finally, the researcher should conduct in using the same conceptual framework with other municipalities to be confirmation of research results.

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**LEGAL IMPLICATION OF DIGITAL MUSIC SAMPLING TECHNOLOGY  
UNDER COPYRIGHT REALM**

by

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**ABSTRACT**

This study was aimed to clarify and analyze the current copyright rules and their application with respect to music sampling in this disruptive technology, in order to determine the extent to which music sampling may be used in accordance with applicable laws. The methods used to analyze legal implication on music sampling was critical law and black-letter analysis, which meant that the analysis was based on the law and case-law. The research findings indicate that issues relating to the sampling of music are part of an important general copyright debate, and whether copyright should keep these unnecessary obstacles in place to the creativity of artists. It is clear that copyright laws in the UK and Thailand have not kept pace with technological developments. There is a need to ensure that legislation reflects these changes through amendments to these two current copyright laws or its interpretation, as the US has already done. The results from this study support that the practice of licensing agreements, which is the industry norm, is the optimal policy for maximizing creativity. In other words, a written authorization from the copyright holders of the musical composition, as well as the copyright holders of the sound recording is considerably needed to avoid any claim of copyright infringement.

**KEY WORDS:** Copyright law, music sampling, copyright infringement, disruptive technology, licensing agreement

**INTRODUCTION**

With the growing popularity of hip-hop music and remix culture, sampling has become a common practice between a great variety of artist and producers who are looking to partner with those who have been coming. Sampling is the act of the integration of integrated sounds in a pre-visible sound that record in a new musical work (Wallmark, 2007). It is a copyright law, when an artist “samples” another music from that artist, that he must re-

ceive permission from the copyright holder of the sampled music or risk of the copyright infringement.

Over the past two decades, making music has become increasingly popular. The sample includes the extraction of fragments of musical works, which serve to compose new creative elements. One can immediately see why a number of copyright infringement litigation has occurred. An example of Rihanna's hit song, "Please do not stop the music", produced headlines previously this year (Berlatsky, 2010). Some of the tracks were sampled in "Wanna be startin'", released by Michael Jackson in 1983 and Rihanna claims to have requested permission. However, this fraction of "Soul Makossa", Cameroon Afro-funk jazzman Manu Dibango, has been sampled by Jackson himself. It was first recorded in 1972 and is regarded as the first disco song by many. Manu Dibango has brought a copyright infringement in French courts against Jackson and Rihanna. (Rychlicki & Zieliński, 2009).

Music samples were not recognized as a particular art form. The necessary approval by the courts and law is of extreme importance for samples of music. In general it is only fair to start with that a sampler requires the original copyright owner's specific permission and license. In some cases, however, sampling has no negative effect on the original work. The scope or particular nature of the sample use can simply be predicted and it is essential in such circumstances to permit sampling (Banerjee & Chaudhury, 2010).

There are legal consequences of music sampling, since copyright owners can recover money from their use successfully or can obtain temporary injunction orders-instructions from a court to stop illegitimate actions of the defendant (The European Judicial Network in civil and commercial matters, 2019). Therefore, a prospective consumer of music must acknowledge the privileges of the music samples and comprehend how to navigate the sample process, so that they can have legitimate access to the required content.

### **Music Sampling and Its Issues in Copyright Realm**

Music Sampling is a process by which a part of an existing sound recording is recorded and reused to create a new sound recording. A guitar solo from a Beatles song could be a sampling instance and used as part of the chorus of a contemporary hip hop song. The use of works earlier protected by copyright usually includes music sampling. In many cases, the sampling point is for the listeners to recognize the actually sampled record (Clarke, 2018). The use of these generally recognizable samples guarantees both the consent and the compensation of the original copyright holder.

Owning a copy of the music itself, in any physical form, does NOT imply ownership of the copyright of the music. Owning a copy of a song includes only property rights for personal use. In other words, although a person can play a song as they would like at home, they cannot copy it for neighbors or play the CD to an audience.

When it comes to songs and other musical recordings, there are generally two types of copyrights that must be dealt with. First, there is copyright for the composition. The composition includes the original writing and the arrangement of the song. Secondly, there is copyright for sound recording. The sound recording deals with the rights of the song as it has been interpreted and recorded (Basharat, 2015).

How can the distinction between structure and sound recording be recognized? The simplest way is to conceive of composition as the rights of the composer and the recording of sound as the rights of the singer/ performer. Although music sampling seems to cover only the copyright of sound recordings, it is also important for an individual to also obtain copyright on the composition.

### **Challenges of Disruptive Technology in Copyright Scheme**

Any technology we believe was new, distinct, and disruptive once and was thus often ridiculed and resisted. Today's social media, film, sound recording and music all have raised widespread concerns, including robots, artificial intelligence and the Internet of Things. Most individuals generally understand that these concerns are misplaced, that the technology is growing and that without it we can hardly recall our lives. In recent techno-panics, though, there has been some concern that the legal system cannot cater for the future harm or problems that these new techniques may cause. As a result, there are often calls for their use to be regulated or stopped.

The fresh perspectives for developing and distributing copyright protected creations are opened by digital technology. At the same moment, if digital technology is used for the qualitatively fresh scenario without suitable regulatory measures adapting global standards and domestic laws, it may contradict the ordinary use of such creations and prejudice unduly copyright holders' legitimate interests (Senffleben, 2010). It therefore seems necessary to consider updating the existing copyright system to the challenges of this new technology.

The legal system lacked the copyright resources for film and television producers as well as those who own copyright recordings or hold the manufacturers and distributors of these jammers responsible for their actions. The US Ninth Circuit was initially on the side of the manufacturers, who noted that the recording of television programs for home viewing is not part of a blanket copyright exception and that the producers and distributors of video recorders can be co-liable for their actions. This was reversed at the Supreme Court in a single vote (Sag, 2012).

The courts have actually offered a much larger one by refusing a victory for the film industry. By enabling this technology to be widely adopted, the courts actually have provided home video sales studios with new benefits and have not paralyzed the copyright law (Menell & Nimmer, 2007). The process is also shown as functioning in the set. Personal liability for their violations may remain in persons who pirate or distribute copyrighted visual material, which shows that standards of liability can evolve naturally through time to achieve an acceptable balance (OECD, 2015).

They were demonstrated to be highly resilient to early generations of computer technologies by their longstanding designs – the sale of books, journals, magazines and recordings, displays, broadcasting and music. The relatively early onset of the threat of digital piracy can be attributed to the information huge amount of music and films and the recent ability of marketing and digital content monitoring in affordable and high definition formats.

The economic justification for copyright, particularly in relation to disruptive technology, should therefore ensure that authors have adequate incentives to engage in creative activities by granting them an exclusive right to use their works (Christensen, Raynor, &

mcdonald, 2015). Although copyrighted works may be a commercial error, this proprietary approach gives the copyright owner the ability to charge a price over the cost of the medium, such as the music, film, recording, or network on which the copyrighted work is distributed.

However, later creators and technological innovators could also be affected by the rights of exclusive author. Copyright must be made for the common good by compensated by restricting copyright time and exceptions, and ensuring that copyright is obligatory for a permit under certain conditions, for the social benefits and the costs of generating financial incentives to generate cost.

The technological advances associated with the Internet and digitization have had a profound impact on the rewards that are available to the creators and the costs associated with the market introduction of works. Digital duplication and distribution disturbance often impacts sales and lowers income for creators to a certain degree of legal protection. On the other side, production and marketing expenses have fallen dramatically and, as digital products replace physical products, sometimes they have been converted to intermediaries (Lee, n.d.). The Internet allows almost instant and free distribution to a mass audience in conjunction with robust advertising networks. The costs of creating and promoting new works may also have decreased and increased in others.

The results were complex. Authors can more easily create and distribute authoring works using digital technology and networks. However, the distribution of copyrighted works by them and their retailers has been lost. While it is hard to quantify the extent of these effects across creative industries, it is easy to identify disruptive changes in traditional supply chain, and also the destruction of old business models and fresh models. Also, they had profound consequences not only for intermediaries and consumers, but in some cases for content creators (Sinkovics, Sinkovics, & Yamin, 2014). This does not mean that all industries based on copyrighted material have undergone a disruptive change.

### **Copyright Protection for Musical Work and Sound Recording**

When trying to “borrow” part of another song, it is essential to understand the associated legal rights. A song usually contains two copyrights, one for the musical composition and one for the sound recording. As described in the copyright law in UK, US, and Thailand, a musical composition consists of music, including all accompanying words. The author of a musical composition is generally the composer and, if that, the lyricist. A musical composition may be in the form of a recorded copy or a phono record ( World Intellectual Property Organization, n.d.).

There must be definition of distinctions between musical composition and musical recordings because the law is dealt with differently. The piece of music that exists in its conceptual form is a music composition which can otherwise be defined as a song. In the absence of a written piece, a constellation of elements such as melody, lyrics, rhythm and harmony, with the melody and lyrics most protected, represents the best definition. A recording music, also referred to as a master recording, is described as a mastered stereo recording designed for commercial release.

The structure of music for the UK is in the legislation equated with all other compositions, and all of them are paid at the public rate in equal installments. No permission is required

for musical compositions to use them. However, if a user chooses to use someone else's work for commercial purposes, he/she must credit and pay for it. In case of payment for the use of a composition, a mechanical license is required and a copy is to be paid for by the copyright owner. (Barr, 2016).

The mechanical fee becomes more complex when we host our work on music streaming services. However the service calculates this computation for us so long as we consider the right composer when uploading the work. Master documents, on the other hand, are covered by other legislation. To use a recording for commercial purposes, the owner of that recording, usually a record label, must give permission to license the recording to another party ( What is a master license? An agreement that provides permission to use a copyrighted audio recording, n.d.).

The cost of the license does not apply to the government, but to the copyright owner and the person who permits the recording. The copyright owner could, in other words, require everything he wishes to allow the user to use a record. Sample or use of recorded music for film or TV programs may include this permission.

If a producer or an artist cannot receive permission to use a sample, or if he does not have sufficient money to permit the sample to be used, he may re-record music elements, such as the melody and lyric, to produce the sampling music without master recordings. This is called interpolation and may be a less expensive alternative to sampling an original master recording. It still requires the purchase of a mechanical license and the recognition of the original composer ( What is a master license? An agreement that provides permission to use a copyrighted audio recording, n.d.). However, it is almost always cheaper than negotiating a license for a recording, since all compositions are compensated by law.

## **RESEARCH METHODOLOGY**

Qualitative research is defined as the method for the copyrightability debate on music sampling, which aims at gaining data through the analysis of critical laws and black letters leading to a law-based evaluation. This is a non-empirical study to investigate the impacts on copyright law in the three chosen nations, namely the United Kingdom, the United States and Thailand, and precedent and jurisprudence concerning music sampling technology.

## **RESEARCH FINDINGS**

Sampling is now an established practice, although there are still strong legal debates. Music sampling involves the direct and permanent reproduction of a portion or sample of a phonogram in digital and digital form. It is therefore obvious that this act constitutes a violation of the right of the producers of the phonogram concerned to authorize or prohibit such reproduction without their permission. Consequently, in this section, two issues are discussed, namely sampled music and the risk of copyright Infringement; and legal implication of music sampling: case study analysis, in order to raise copyright issues when the use of the sampled work is not permitted and assesses the practical implications of copyright laws in the context of sampling in the music industry.

## **Sampled Music and the Risk of Copyright Infringement**

As we will soon see, copyright infringement carries a significant risk of burdensome legal consequences. In fact, an artist who samples without permission violates both the copyright of the recording and the copyright in the composition. This duality of infringement is particularly due to the fact that a track containing samples of existing sound recordings is considered a derivative work. This means that an artist may need to seek the permission of all relevant copyright owners, which usually results in finding the record label and publisher of the track; sometimes the artist and / or songwriters must also give their permission.

However, since samples violate the structure and registering rights of the initial song, the use of the samples in music needs the copyright holders to either license the sample or risk legal proceedings. The process of interpolation, which included a song without sampling, often resulted in an original property being brought to the copyright owner of the new song. The most common problem that artists are experiencing is the unauthorized collection of copyrighted recordings. In the early '90s the federal courts established the strictest possible precedent of using samples with a number of complaints about hip-hop samples. No recordings could be produced unless authorizations were given and credit received from the copyright proprietor (Foreman, 2018).

If the producer scanning the recording is unable to pay for what the copyright owner requires, the sample must be taken out of the final mix. Famous shoots can cost more than actual cost when commercialized. Sampling without credit, however, means that the person using the sample must stop selling the song, re-release the sample without a sample, pay compensation to the copyright owner, or even cancel the copyright for the for the song, along with any royalties.

When a composition is transformed into a completely new work. For example, a parody song may be considered fair use and be exempt from copyright. However, the credited work may not influence the profit of the original piece under the doctrine of fair use and may not replace the original work when broadcasting on a radio or club. Even parody artists must adopt a clear line in accordance with these guidelines (Ruddock, 2005).

For example, Weird Al Yankovic's parody songs may be qualified for fair use, but he will receive written permission to parody copyrighted works, as the process of being sued for copyright infringement can be time-consuming and expensive, even if the court ruled in its judgment would like to decide. Some people believe that uncrimped sampling in a hip-hop mixtape is fair because it's not commercial. That is wrong. Distributing copies of someone else's photos for free can reduce the profits of the original work. Therefore mixtape artists cannot hide behind a fair use. If a user avoids a copyright infringement claim, it will be through luck (Sanders, 2009).

The law surrounding sampling was unclear at the beginning of hip-hop and electronic dance music. UK Copyright, Patent and Design Act does not explicitly address transformative samples (Hurvitz, 2014). This hardly mattered, with so few artists having enough commercial success to grab the attention of copyright owners. Likewise, the Copyright Act B.E. 2537 does not use terms such as "sample" or "sampling". However, it defines derivative works (derivations) that are understood as transformations or adaptations of existing works that have originality, creativity and individuality. Authors of derivative works

who intend to distribute their works require the consent of the author of the original work (Taweepon & Wheatley, 2017).

Rights to the sound recording arise when the music is recorded in the master form. The symbol © on the liner notes denotes the copyright of the sound recording (Bergman A. R., n.d.). The producer of the audio recording is usually, but not always, a record label under a contractual agreement with the author. This happens when the label records the master in a studio. The author and producer, which are not allowed to be connected, are each copyrighted on recording, and the potential music user shall remove the rights to enjoy the music in full from both property streams.

Basically, sampling works can therefore be considered as derivative works that contain elements of artistic works that originate from an original source, but they are nevertheless the creative works of their makers. In this case, the original author should be named as the creator / author along with the creator of the new work, and the derivative work must specify the name of the original track taken as a sample. Inferred work encompasses both the creative characteristics of an original work and the innovative efforts of another person, and both must be recognized.

### **Legal Implication of Music Sampling: Case Studies**

A successful claim for copyright infringement requires proof of two elements: (1) ownership of valid copyright and (2) copying of original parts of the work. The first element is readily met when copyright is registered with the United States Copyright Office. With respect to the second item, courts typically (1) check whether the alleged copier had access to the copyrighted work, and (2) whether the works are substantially similar. Since most songs are widely distributed over the Internet, most cases revolve around whether the works are essentially similar.

#### *Grand Upright Music Ltd against Warner Brothers Records Inc.*

“Thou shalt not steal” were the words of American judge Kevin Thomas Duffy when he declared his decision in 1991 in the case of Grand Upright Music Ltd against Warner Brothers Records Inc. His honor here was that the use of a 10-second sample from a track by Raymond Gilbert O'Sullivan, “Alone again (Naturally)” by Biz Markie is a copyright infringement and possibly even a criminal offense (Ashtar, 2009).

This case was one of the first cases of music sampling and copyrights ever settled by a court, and since then several cases have been filed in the US courts. However, no similar cases have been brought to the British courts that put British artists in an insecure position (Lindenbaum, 1999). Sampling can be defined as a copy or reuse of a larger or smaller part of an existing recording / track. Sampling therefore means that it is based on the copyright of another person, which means that sampling can be a violation of the rights of the author, the performer and the record label. The legitimacy of music samples is currently greatly confused, since the legal requirements and general court judgments are not enough. Despite the reality that sampling concerns various copyright problems, in legal literature and, in specific, in the case law, sampling remains a much unknown field. Currently, the UK courts have not decided on sampling. The UK legal situation with regard to sampling must therefore be considered indefinite and unclear (Bergman B. , 2005).

The owner can take action against the infringer in case of a copyright infringement. The owner of the copyright may require compensation, in the form of damages, arrangements and accounts otherwise available for other forms of ownership. In assessing the infringement and the extent of the damage, the court in UK as well as Thailand must take into account the ‘flagrance of the infringement’ and the ‘advantages arising for the defendant as a result of the infringement’ (World Intellectual Property Organization, n.d.).

This means that a musician who wants to use a music sample of a protected work must seek the permission of the author / copyright owner before using the sample, unless he is more than 50 years after the death of the author. It has to be mentioned that a sound recording is not protected by copyright if it is a copy of a previous sound recording (World Intellectual Property Organization, n.d.). This means that a pattern in a new work will not be protected, but it will remain protected in its original form.

#### *Bridgeport Music, Inc., v. Dimension Films*

In cases of music samples, the investigation largely focuses on how much of the song is used. In a case of 2006 in which a N.W.A. A rap song that sampled a Funkadelic riff (Bridgeport Music, Inc., by Dimension Films) found the Sixth Circuit Court of Appeals that any music sampling is too much. According to the court: “Get a license or do not try. We do not see this as a major limitation of creativity” ( Bridgeport Music, Inc. v. Dimension Films, 2005).

However, unlike the Sixth Circuit rule set out in Bridgeport, the *de minimis* - copyright infringement exception was used in 2016 in connection with music samples. The ninth circuit decided that Madonna's song “Vogue” tried out a sampler from the 1976 song “Love Break”, which for less than a second was not a copyright infringement (Quinn, 2017).

First, the US Copyright Act 1976 authorizes the courts to award lawyer fees and fees to successful litigants, meaning that the failed litigants must pay the other party's legal fees (17 US Code section 505). Second, the copyright holder of the plaintiff is entitled to receive, for each work against which the defendant is infringed, the choice of the actual damage plus the profits of the infringer or the legal damage. The Copyright Act provides for a statutory damage of \$ 750 to \$ 30,000 per act; and up to \$ 150,000 if the court finds that the violation was committed intentionally (17 US Code section 504). If the copyright holder chooses to do so, he may reclaim the actual damage caused by the breach as well as the infringer’s profits attributable to the breach (17 US Code section 504) (Rose, 2009).

Penalties may include paying a publisher's fee to the copyright owner. This means that the infringer must pay a certain amount to the copyright owner for each sale, performance or cover of the song.

#### *Paul's Boutique and Creativity in Rap Sampling*

In 1989, the Beastie Boys followed their harsh rap album Licensed to Ill with Paul's boutique, a commercial flop. The album was produced and co-written by the Dust Brothers, who supported the rappers with a rich musical texture of hundreds of samples (Mccord, 2015). Appropriate music includes an Isley Brothers guitar solo, the reggae standard “Stop That Train”, the Beatles’ guitar solo from “The End”, and radio commercials for New York stores (Mccord, 2015).

Similar to music, raps are pop culture related and include celebrities such as Geraldo Rivera, J. D. Salinger and Fred Flinstone. The ingenuity of the album influenced all subsequent hip hop records, partly because sampling and cultural immersion were used to make the music meaningful (Kreps, 2017).

The samples are not used to avoid the expense and expense of producing original music. The perceptible samples add layers of meaning to the music. The cultural context that an excerpt from an old song allows makes the listener think, “Where did I hear that?” And associate the new song with the meaning they attach to the old one. Since 1987, the Beastie Boys have established themselves as culture connoisseurs and foodies and even published a magazine that contains the cultural interest for them. Their early use of samples has a similar function and shows to the listener that the beasties draw their influence from a long tradition of rock and funk music as well as contemporary hip-hop. In their later albums, after the use of sampling became prohibitively expensive, the beasties themselves played rock music to refer to their musical roots. In Paul’s boutique, the patterns serve as reference (Mccord, 2015).

For example, the Beastie Boys rap, “I shot a man in Brooklyn”, and then sing a rehearsal of Johnny Cash, “Just to see him die”. This is a reference to Johnny Cash’s classic song “Folsom Prison Blues” Best known for the line “I shot a man in Reno just to see him die”. This use of Cash’s song is not only acoustically interesting, but also suggests the importance of Johnny Cash's influence on contemporary music, especially since the hopelessness and ubiquity of mindless violence is an important theme in both old country music and hip -Hop. The classic theme of the ruthless criminal is not put into the Wild West, but implies that the careless attitude of New Yorkers equals lawlessness of the border.

Eliot complains about Western society and art's decrease by compiling dozens of obscure historical and literary references which require a number of notes to completely comprehend them. In putting themselves among the denser range of cultural reference, the Beastie Boys demonstrate the significance of the Beatles, Reggae, Sly Stone and Bluegrass. Like poetry, music is interpreted by each listener, and through the use of samples a number of meanings can be interpreted. Without previously recorded music, the Beastie Boys and other musicians could not attempt to build on older music and pay homage to their roots (Mccord, 2015). All musicians have influences that can be heard in their music, but the Beastie Boys simply played the influence themselves instead of incorporating stylistic nuances in their own songs.

Hip Hop is a music of modern urban culture which enables such cultural growth through use of name-topping and sampling. While Paul’s boutique has been strongly influenced by hip hop and rock musicians, Sublime and Beck, it cannot be established at present because of unreasonable royalties. Even millionaire artists like the Beastie Boys could be discouraged if they had to pay each of the hundreds of sampled artists to use their material. Paul’s boutique shows that sampling can be used for a cultural statement and that often more than a few samples are needed to complete the artist’s artistic vision. The current system makes the realization of this vision extremely expensive (Masnick, 2013).

## **CONCLUSION**

Music rights protect recordings differently than the music contained in a recording. The words, melody, rhythm and harmony together can be used without permission, but must be

credited and paid. On the other hand, recordings may only be used if the copyright owner grants written permission.

Given the liability risk, it is advisable to seek written permission to use the sample. In most cases, you need written permission from the copyright holder of the musical composition (often a music publisher) and the owner of the sound recording (often a record label). Most recording and publishing businesses want to understand how to use the sample before granting a license to their users. Furthermore, assume that it can be negotiated, including the quantity of music the users can use and how much it will cost. If the users want to use an example legally, they must obtain the permission of the copyright holder. The copyright owner is usually a publisher or record label. The users must obtain permission from both the sound recording owner and the copyright holder of the underlying musical work. The fee for a license to use a pattern can vary greatly. The charge depends on how much of the music sampling they want to use (a quarter second is a minor use, five seconds a major use), the music they want to sample, and the intended use of the sample in their song.

Two ways to pay for a license are possible. First of all, the users can pay a flat fee. Otherwise, a percentage of the mechanical license rate is to be paid. The mechanical license fee is the amount that a person pays to the copyright owner to reproduce the song mechanically. The payment of royalty through royalties is the fairest method for both the sampled artist and the sampling artist, as speculation about the future success of the new song and power relations between the two parties can not affect the royalty. The current license alternatives include, except for nothing to do and refuse to grant a license, the granting of a one-time flat fee license, the granting of a license against royalties on the sale of the new song and the granting of a license fee and performance license through the new work, to co-ownership of the new composition, or to an assignment of copyright to the new work. A flat fee system would be cumbersome, as newer artists and labels with fewer resources could pay less but also distribute fewer albums. Giving the original artist full ownership reduces the incentive for new artists to collect samples. The distribution of royalties for sales and performance based on the volume of sampling could prove to be a more efficient method of preserving intellectual property rights while promoting creativity.

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**THE PROBLEMS WITH THE ENFORCEMENT OF  
THE THAI PERSONAL DATA PROTECTION LAW:  
THE OBLIGATIONS AND THE LIABILITY OF  
CLOUD SERVICE PROVIDERS**

by

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**ABSTRACT**

Cloud computing has become a popular way to provide Information Technology (IT) resources over the Internet. The Thai Personal Data Protection Act, B.E. 2562 (2019) imposes many data protection obligations on particular parties, including the data controller and the data processor, to take care of the personal data of several cloud users as data subjects. However, it is in practice difficult to identify whether various kinds of cloud service providers are obliged to comply with the data protection obligations imposed by this Act and whether they are liable for their non-compliance. Furthermore, it is not easy for cloud service providers to comply with some data protection obligations. All these situations seem to pose a serious threat to the security of the personal data of cloud users. This study will suggest practical approaches, e.g. providing new provisions and some guidelines, to help determine the data protection obligations and the liability of particular cloud service providers and to help them achieve their data protection obligations. The EU Data Protection Law, which is the General Data Protection Regulation (GDPR) is examined to discover appropriate solutions in order to improve the protection of the personal data and the privacy of cloud users.

**KEY WORDS:** Personal Data Protection, Cloud Computing, obligations, liability, Cloud Services providers

**INTRODUCTION**

Cloud computing is a model for providing computing resources over the Internet, ranging from simply providing an outsourced storage space to the full external provision of hardware infrastructure (Buyya, 2013). Cloud computing can offer a number of benefits to cloud users, such as reducing the cost, easing the maintenance and increasing the IT flexibility (Bauer & Adams, 2012). However, it also entails some risks to cloud users, such as a lack of service availability, a lack of data portability and privacy risks (Furht, 2010). As a result of this, the Thai Personal Data Protection Act, B.E. 2562 (2019) has been passed with a view to preserving the privacy of all online users.

**RESEARCH PROBLEM**

In the Thai Personal Data Protection Act, B.E. 2562 (2019), the data controller and the data processor are the two main parties who are obliged to comply with a range of data protection principles. The Thai Personal Data Protection Act, B.E. 2562 (2019) provides def-

initions of the data controller and the data processor in order to help differentiate between the data controller and the data processor. However, the activity of both the data controller and the data processor, which will be regulated by this Act does not include all the activities of all cloud service providers. In addition, the complexity of cloud computing does create difficulties in identifying who is the data controller and who is the data processor in the context of cloud computing at various points (Hon & Millard, 2013b). Accordingly, it is unclear whether several cloud service providers will have to comply with the data protection principles and whether they will be liable for any damages resulting from their non-compliance under the Thai Personal Data Protection Act, B.E. 2562 (2019). Moreover, the nature of cloud computing does create difficulties for each cloud service providers to comply with some data protection principles. All these situations tend to create risks to the privacy of all cloud users.

### **RESEARCH QUESTION**

What are the problems about the enforcement of the Thai Personal Data Protection Act, B.E. 2562 (2019) in case of the obligations and liability of cloud service providers and how to address these problems?

In order to answer the main research question, the following sub-questions will need to be addressed:

**RQ1:** What is the legal status (data controller or data processor) of various kinds of cloud service providers according to the Thai Personal Data Protection Act, B.E. 2562 (2019)?

**RQ2:** Is there any problem that makes it difficult for various cloud service providers to achieve their data protection obligations under the Thai Personal Data Protection Act, B.E. 2562 (2019), if the answer is yes, what the problem is?

### **OBJECTIVES**

1. To study the nature of cloud computing and the activities of various kinds of cloud service providers.
2. To study the data protection obligations imposed on data controllers and data processors and their liability, as set out by the Thai Personal Data Protection Act, B.E. 2562 (2019).
3. To provide a comparative study of the relevant provisions under the Thai Personal Data Protection Act, B.E. 2562 (2019) and the EU Data Protection Law (General Data Protection Regulation (GDPR)) which could be used to identify the data controller and the data processor in the context of cloud computing.
4. To explore the problems involved in identifying the status of particular kinds of cloud service providers (data controllers or data processors) under the Thai Personal Data Protection Act, B.E. 2562 (2019) and the problems that make it difficult for cloud service providers to comply with the data protection principles under the Thai Personal Data Protection Act, B.E. 2562 (2019).

5. To suggest the practical approaches that might help in identifying whether particular cloud service providers are obliged to comply with and are liable for their non-compliance under the Thai Personal Data Protection Act 2019, B.E. 2562 (2019).
6. To suggest the potential ways to help cloud service providers to achieve their data protection obligations under the Thai Personal Data Protection Act 2019, B.E. 2562 (2019).

## **RESEARCH METHODOLOGY**

A comparative study is the main approach which will be used to examine the provisions relating to the obligations and the liability of cloud services providers and also the relevant provisions of the Thai Personal Data Protection Act, B.E. 2562 (2019) and the EU Data Protection Law, which is the General Data Protection Regulation (GDPR), which could be used to identify whether various kinds of cloud service providers are obliged to comply with the data protection principles and whether they are liable for their non-compliance.

As the European Union (EU) has been considered to have quite strict data protection regulations regarding the processing of personal data in an online environment, the EU Data Protection Law (GDPR) is worth considering to discover practical and appropriate approaches to address the problems with the enforcement of the Thai Personal Data Protection Act, B.E. 2562 (2019).

This study relies almost entirely on documentary research which includes an interpretation, analysis and synthesis of

1. The Thai Personal Data Protection Act, B.E. 2562 (2019);
2. The EU Data Protection law (the General Data Protection Regulation(GDPR));
3. The decisions of judicial bodies, i.e. the CJEU and national courts;
4. Secondary sources, such as books, academic articles, reports, discussion papers;
5. The decisions, the working papers and the guidelines of the European Commission;
6. The opinions and recommendations of the Article 29 Data Protection Working Party (A29WP) and the European Data Protection Board (EDPB).

## **RESEARCH FINDINGS**

The Thai Personal Data Protection Act, B.E. 2562 (2019) is the main legal instrument regarding the protection of the personal data of all online users. This means that the collection, use or disclosure of personal data residing in the cloud is governed by this Act. The Act was finally approved by the National Legislative Assembly on February 28, 2019 and then was published in the Royal Thai Government Gazette on May 27, 2019. It will come into force on 27 May, 2020. This Act applies to the collection, use or disclosure of personal data by the data controller and the data processor, who is residing in Thailand and also outside Thailand if they offer products or services to the data subject residing in Thailand, whether or not payment is made, or if they monitor the activity of the data subject in Thailand (Article 5).

This Act imposes a number of data protection obligations on two particular parties, the data controller and the data processor. For example, the data controller is obliged to obtain consent from the data subjects before collecting, using or disclosing their personal data to any others and to provide appropriate security measures to prevent any loss, access, use,

change, correction or disclosure of personal data without authorisation or in an unlawful way (Article 19 and 37). At the same time, the data processor is obliged to collect, use and disclose personal data to any other only according to the instructions of the data controller and to adopt appropriate technological approaches in order to preserve the data security (Article 40).

This Act also sets out different kinds of liability, including civil, criminal and administrative penalties, for those data controllers and data processors who do not comply with their obligations (Article 77-90).

Article 6 of the Thai Personal Data Protection Act, B.E. 2562 (2019) aims to make it clear who will be obliged to comply with the data protection obligations by providing a definition of the ‘data controller’ as

“a natural or legal person authorized to make decisions on the collection, use, and disclosure of personal data”

and also by providing a definition of the ‘data processor’ as

“a natural or legal person who collects, uses, or discloses personal data by order of or on behalf of the personal data controller. This person is someone other than the personal data controller”.

The distinction between the data controller and the data processor is at first glance quite clear according to the definitions provided by Article 6. When applying these two definitions in the context of the cloud computing, it is not easy to identify who is the data controller and the data processor. It might be assumed that when a cloud user as a data subject places data in cloud computing, a cloud service provider is a data controller who makes decisions on the collection, use and disclosure of personal data. At the same time, a cloud service provider who merely collects, uses or discloses personal data by order of - or on behalf of – a user, could be seen as a data processor, as long as such a cloud service provider does not act in a manner which is inconsistent with the user’s instructions.

The nature of cloud computing has created challenges for applying these definitions in the context of cloud computing at various points. Cloud computing can be classified into two main models, i.e. the deployment model (Software as a Service, Platform as a Service and Infrastructure as a Service) and the service model (Private Cloud, Public Cloud, Community Cloud and Hybrid Cloud). The significant difference among the different kinds of cloud service providers is the ability to control each component of the cloud infrastructure and to exercise control over the personal data of cloud users (Hon & Millard, 2013a). Compared with an Infrastructure as a Service provider, a Software as a Service provider probably have more ability to exercise control over the processing of personal data.

Moreover, due to the fact that cloud computing resources are pooled together to form a large resource to serve multiple users, one kind of cloud service could be layered on top of another kind of cloud service (Taskova, 2016). Therefore, there might be more than one party involved in the same set of personal data of cloud users. The more sub-cloud service providers get involved, the more complex it is to try to identify the data controller and the data processor in the context of cloud computing (Webber, 2016). And since one cloud service provider can play different roles in relation to the same set of personal data, such a

cloud service provider could be either the data controller, the data processor or neither of these.

Although some cloud service providers might define themselves as data controllers or data processors in their terms of service, this is not conclusive under the data protection law which assigns the status of the data controller and the data processor to the different parties involved in the personal data depending on what the parties actually did in the situation rather than on how they labelled themselves (Heywood, 2016). It can be concluded that different kinds of cloud service have made the distinction between the data controller and the data processor become increasingly blurred (Hon & Millard, 2013c). All these situations have thus made it quite difficult to determine the data protection obligations and the liability of particular cloud service providers.

Apart from that, the nature of cloud computing does seem to be an obstacle for particular cloud service provider to comply with some data protection obligations. For example, it is not easy for an Infrastructure as a service provider to take any measures that affect the collection, use, and disclosure of personal data in the cloud. This is because Infrastructure as a service provider merely supply the utility infrastructure for users' self-service usage, without any ability to monitor the personal data processing or even to obtain access to the data (Hon & Millard, 2013c).

In the EU, the General Data Protection Regulation (GDPR) is the main legal instrument on data protection that govern the processing of personal data held in the cloud with a view to preserving the privacy of all cloud users. This regulation imposes a range of data protection obligations on both a data controller and a data processor. For example, the data controller is obliged to comply with the principles of data protection by design and default by implementing appropriate technical and organisational measures, ensuring that the data is only processed where and for as long as necessary and generally complying with the requirements of the GDPR and to notify of any personal data breach to the competent Data Protection Authority, not later than 72 hours after having become aware of it (Article 25 and 33). The GDPR also provides guidelines on how the data controller can demonstrate compliance, e.g. to adopt internal policies or to adhere the processor to an approved code of conduct (Article 24).

The data protection obligations of the data processor are quite similar to those of the data controller, e.g. to maintain all the categories of the processing activities under its responsibility, to notify of any personal data breach to the competent Data Protection Authority (Article 30, 31, 33 and 37). Apart from that, the GDPR specifically sets out the extra obligations for the data processor in Article 28 which include to get the specific or general written authorisation of a data controller before engaging with another data processor and the requirement that the processing by the data processor should be governed by a written contract or legal act. Both the data controller and the data processor are obliged to be liable for non-compliance with the GDPR.

In order to make it easier to, the GDPR provides the definition of the 'data controller' in Article 4(7) as

“the natural or legal person, public authority, agency or any other body which alone or jointly with others determines the purposes and means of the processing of personal data”

and also provides the definition of the ‘data processor’ in Article 4(8) as

“a natural or legal person, public authority, agency or any other body which processes personal data on behalf of the controller”.

In addition, the GDPR promotes the position of joint controller, where two or more controllers jointly determine the purposes and means of the data processing, as a separate actor by providing its definition and imposing specific obligations on this actor in Article 26 to determine its respective responsibilities for compliance with the GDPR by means of an arrangement between them.

Compared with the Thai Personal Data Protection Act, the concept of the data controller and the data processor under the GDPR is quite broader. The GDPR connects these two definitions with the definition of ‘data processing’ in Article 4(2), which is

“any operation or set of operations which is performed on personal data or on sets of personal data, whether or not by automated means, such as collection, recording, organisation, structuring, storage, adaptation or alteration, retrieval, consultation, use, disclosure by transmission, dissemination or otherwise making available, alignment or combination, restriction, erasure or destruction”.

It is clearly seen that this definition includes more activities of cloud service providers. This will provide a clear concept of who will be the data controller and the data processor in the context of cloud computing. Moreover, the concept of the joint controller is also very helpful for dealing with the question of who will be liable in the event of any breach or misuse of personal data when many cloud service providers are involved in the same set of personal data processing.

It can be concluded that the existing definitions of the data controller and the data processor in the Thai Personal Data Protection Act, B.E. 2562 (2019) (Article 6) do not seem to cover all the activities that cloud service providers perform. Moreover, the complexity of the nature of cloud computing does make it difficult to identify the data controller and the data processor in the context of cloud computing. Accordingly, it is not easy to determine the data protection obligations and liability of particular cloud service providers. This situation poses difficulties to cloud service providers to achieve the data protection obligations as required by the Thai Personal Data Protection Act, B.E. 2562 (2019) which then probably affect users’ privacy and data security.

## **RECOMMENDATION**

Due to technological developments, the business environment has changed completely. With cloud computing, it is quite difficult to identify the data controller and the data processing according to the definitions provided by the Thai Personal Data Protection Act, B.E. 2562(2019). This is because some cloud service providers merely collect, use or disclose personal data by order of - or on behalf of – a user, but other cloud service providers can determine the purposes and means of the collection, use, and disclosure of personal data. Different kinds of cloud service providers will have different level of the actual control over the collection, use, and disclosure of personal data. Accordingly, this study will propose four main ways to address the problems with the enforcement of the Thai Personal Data Protection Act, B.E. 2562(2019) in case of the obligations and liability of particular cloud service providers as follows:

1. The definitions of the ‘data controller’ and the ‘data processor’ in Article 6 of the Thai Personal Data Protection Act, B.E. 2562(2019) should be reformed. These two definitions should include more activities of cloud service providers and should be linked with the definition of data processing.
2. The Thai Personal Data Protection Act, B.E. 2562(2019) should provide the definition of the ‘data processing’ which would cover any operations of all cloud service providers.
3. There should be guidelines provided by the expert committee of the Ministry of Digital Economy and Society on how to identify the data controller and the data processor who have the data protection obligations and the liability under the Thai Personal Data Protection Act, B.E. 2562(2019), especially in the context of an online environment.
4. All relevant parties, including the private and public sectors should work together to provide practical guidelines on how to achieve the data protection obligations under the Thai Personal Data Protection Act, B.E. 2562(2019).

Apart from that, due to the fact that cloud computing is a technical issue, it would be very helpful to educate all the public authorities who are involved in the enforcement of the Thai Personal Data Protection Act, B.E. 2562(2019), e.g., the police, the prosecutors, the judges, about the architecture of different kinds of cloud services. Moreover, good cooperation between private companies, e.g., cloud service providers and public organisations would potentially be a way to discover practical and appropriate approaches for dealing with the problems with the enforcement of the Thai Personal Data Protection Act, B.E. 2562(2019).

## **CONCLUSION**

In Thailand, although there is the Thai Personal Data Protection Act, B.E. 2562(2019) which aims to improve the privacy protection of cloud users, the enforcement of this Act is not without its problems. There are difficulties relating to identifying the data controller and the data processor in the context of cloud computing, who are obliged to comply with the data protection principles and to be liable for their non-compliance.

The existing definitions of the data controller and the data processor do not seem to include all the activities that cloud service providers perform. Furthermore, the distinctive features of cloud computing - which are considered to be complex - have created problems in identifying whether the actions of particular kinds of cloud service providers will be regulated by this Act and have creates problem about how to comply with some data protection obligations, as required by this Act. All these situations pose privacy risks to cloud users.

Accordingly, this study will propose some approaches to address these situations by:

1. providing new definitions of the data controller and the data processor which connect to the definition of the data processing;
2. providing a definition of the data processing;

3. providing guidelines on how to identify the data controller and the data processor in the context of cloud computing;
4. providing guidelines to fulfill data protection obligations of the data controller and the data processor as required by the Thai Personal Data Protection Act 2019, B.E. 2562(2019);
5. educating all the relevant parties who are involved in the processing of personal data about the personal data protection principles in the Thai Personal Data Protection Act 2019, B.E. 2562(2019); and
6. educating the public sectors who are involved in the enforcement of this Act about the nature of various different kinds of cloud services. Additionally, good cooperation between the private and public sectors will potentially be a way of strengthening the privacy protection of all cloud users.

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## **CORRELATES OF CORPORATE IMAGE THROUGH STUDENTS' PERCEPTION AND SATISFACTION IN A UNIVERSITY IN MINDANAO, PHILIPPINES**

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### **ABSTRACT**

Satisfied students give any school a positive corporate image that becomes the latter's edge in a competitive market. In responding to the issue of corporate image (CI), this study explored the impact of the university services by investigating the level of students' perception and satisfaction on the variables: Vision Mission Objectives Core Values (VMOC), Outcomes-Based Education (OBE), Students' Satisfaction (SS) and Service Quality (SQ). These variables were investigated using CONTEXT INPUT PROCESS PRODUCT (CIPP) program evaluation model and to find their correlation to corporate image. This study employed and used questionnaires for data collection from 455 students of a university in Ozamiz City, Misamis Occidental, Philippines who were graduating from college in March 2015. Cronbach Alpha addressed the issues of validity and reliability of the measurements. Multiple regression analysis and correlation coefficients established the correlation of the variables. Results showed that student's satisfaction and VMOC have high correlation to the corporate image of the university. For academic institutions to have an advantage over its competitors, it is suggested that effective implementation of its mission must be ensured and satisfying service must always be upheld.

**KEY WORDS:** Corporate image, outcomes-based education, service quality, students' satisfaction

### **INTRODUCTION**

Universities with distinct image are in better competitive position in the marketplace (Abd-El-Salam, Shawky& El-Nahas, 2013). Corporate image (CI) is essential in the promotion of the institution for popularity in the market and for becoming a choice of brand for education needs. It is the only underlying factor that differentiates organizations (Khodayari & Khodayari, 2011) especially when products are complex and intangible such as education. In today's competitive education environment and looming internationalization goals among academic institutions in Mindanao, Philippines, corporate image is perceived to have a value for the organization and is considered an important strategic element in enhancing market performance and society's perception (Boonpattarakan, 2012) where being strategic means being able to integrate elements in its operation management altogether to form a unified image-building steps because the organization's strategic advantage and ultimate survival may well depend on a recognizable image (Gray & Balmer, 1998).

## **Vision Mission Objectives and Core Values**

The university envisioned to be a leading private non-sectarian institution of learning. To be a market leader needs a superior image which is not an easy task to achieve without developing corporate philosophy, culture and adequate, co-ordinate, effective and efficient management, (Abd-El-Salam, Shawky& El-Nahas, 2013). Where the vision and mission must be customer-focused and result-oriented and actually performed in the community (Dotong & Laguador 2015), the company's identity would be translated into a favorable image in the minds of its several stakeholders through a variety of communication mechanisms and channels (Gray & Balmer, 1998). Therefore, by fulfilling the institution's mission and pursuing its vision, any organization can generate good corporate image (Drori, 2015).

## **Outcomes Based Education**

Working for a better corporate image, the institution required the need to assess the quality of its inputs' performance. Being customer-focused and result oriented, the university implemented CHED Memorandum Order (CMO) No. 46, series 2012 which bears the title, 'Policy-Standard to Enhance Quality Assurance in Philippine Higher Education Through Outcomes-Based and Typology-Based Quality Assurance'. This implementation fulfilled a requirement which ensured that quality in performance must translate into an outcome. OBE is a comprehensive approach to organizing and operating an education system that is focused on and defined by a successful demonstration of learning outcomes or results that students should demonstrate at the end of significant learning experiences (Eng, Akir & Malie, 2012; Borsoto, Lescano, Maquimot, Santorce, Simbulan & Pagcaliwagan, 2014). With this, graduates of OBE schools must be able to demonstrate higher level of skills and competence to contribute to the national, regional and international development (Dotong & Laguador, 2015) whereby such competence must also project a positive image of the institution in the international arena.

## **Service Quality**

In the realm of education, quality is viewed as relative to "processes" or "outcomes" (Koni, Zainal& Ibrahim, 2012) and earns wide differing conceptualizations including its being transformational (Gallifa & Batallé, 2010). The proposed concepts of quality turn in education (Schwandt 2012) and the concept of outcome quality (Gallifa & Batallé, 2010) are generally shared by education referring that all components of the education system must be geared to produce outcomes. The quality of service as a precedent for satisfaction or dissatisfaction (Mansori, Vaz& Ismail, 2014) emerged from a state or feeling of a person who has experienced a performance or an outcome that has fulfilled his or her needs and met his or her expectation (Hanaysha, Abdullah & Warokka, 2011). This quality process of transforming an individual to desired outcomes through the offerings of educational services must be geared to promote and uphold the University's image.

## **Students' Satisfaction**

Customer satisfaction is said to be the most notable concern of service organizations (Karami & Olfati, 2011). In schools, student satisfaction determines the accuracy and authenticity of the system being used (Hanaysha, Abdullah & Warokka, 2011). It is also referred to as the favorability of a student's subjective evaluation of the various outcomes

and experiences associated with education (Yusoff, McLeay & Woodruffe-Burton, 2015) and is consisting of factors that pertain to a comfortable learning environment which is characterized by a total campus experience. Study showed that there is positive relation between customer satisfaction and corporate image where the latter also affected customer perceived value (Zameer, Tara, Kausar & Mohsin, 2015).

### **Evaluation of Variables Using the CIPP Model**

At the onset of global competition with better branding formulations, the corporate image of the university can be shaped and pushed by many factors. Factors such as the university's VMOC, OBE education system, service quality and students' satisfaction are among the variables explored in this study. These were evaluated and assessed using the CIPP evaluation framework. With the intention of not to prove, but rather improve the program or environment itself, an evaluation framework following the CIPP model included a context, input, process, or product evaluation, or a combination of these elements (Stufflebeam, 2003). In evaluating the university in CONTEXT, the factor assessed is the university's Vision Mission Objectives and Core Values. The mission, vision, goals and objectives of the university is the spirit that moved and affirmed the organizations' strategy which were translated into priorities and steps and how the stakeholders engaged in (Ruben, 2014) wherefore the respondents' perception on the attainment of these ideals potentially contributed to the image of the institution. The students are the stakeholders of the university's mission and objectives as prescribed in the university's VMOC and being the first hand recipients of these ideals, they have become the most reliable evaluator of the latter's performance. It is then important to see how these constituents are being served by the institution and how they perceived such service.

The university's INPUT evaluation zeroed in on the university's academic engagement in the OBE atmosphere. How the respondents perceived the level of implementation of the OBE principles in the classrooms may or may not be contributing to the image of the institution. In this study, the PROCESS evaluation focused on the respondents' level of perception on the service quality of the institution where the elements of service quality assessed included both tangibles and non-tangibles which were deemed important in the quest for quality outcomes. The PRODUCT evaluation centered on the students' level of satisfaction in the university's services that would result to a positive outcome.

This study aimed to determine the level of the students' perception and satisfaction on the independent variables as described in the CIPP framework and to examine which factors correlated positively to the corporate image of the university. The regression analysis determined which among the independent variables have high correlation and have the power to predict the university's corporate image.

### **The Students' Perception and Satisfaction Levels**

The students are the most important stakeholders of an academic institution, therefore the VMOC is not meant to be reviewed by the management and employees (Darbi, 2012) alone in an effort to crystalize the institution's goals and objectives but that, the students' evaluation must also matter in improving the schools' performance. This study showed that the respondents have imbibed the VMOC of the university in a positive level as they perceived highly the university's intention of molding them into persons of values with good sense of awareness on its environment and are ready to meet global challenges in

their career. Their positive perceptions of the university also indicated their level of understanding on the institution's goals of providing for them an academic environment that fosters unity and creativity; encourages entrepreneurial activities, environmental engagements and appreciates the country's history and culture. The level of perception on the VMOC variable also indicated that the respondents of this study kept in mind that the university promoted values that made them principled, well-mannered and committed individuals. Most importantly, this result implied that the respondents, having perceived the VMOC highly enough, have developed a good sense of ownership of the university's ideals and therefore made a contribution to the institution by way of its commitment and confidence to the institution especially in the latter's institutional achievements. This sense of ownership may have been a result of the institution's orientation of its mission vision objectives and core values during the student's orientation at the beginning of every school year. The students were made to be aware of the university's intention to develop them into a total human person who can exhibit appropriate values, knowledge and skills in their personal and professional life. The results affirmed a study (Lin & Ryan, 2016) suggesting that the communication of mission statements to customers can enhance positive assessments of brand image. The students' positive perception of the university's VMOC can help the university through a boost of its image, a good position in the market and a confidence in its journey towards the attainment of higher goals.

The OBE Implementation survey assessed the level of perceptions of the respondents on the OBE implementation principles as described by the indicators. The result suggested that majority of the respondents have in-between low to high notions of the principles. All of the four implementation principles of outcomes-based education: Clarity of Focus, Design Down, High Expectations and Expanded Opportunity have earned similar degrees of perception as to their implementation. Setting high and challenging performance tasks which were established with rubrics and building them to a higher level of success in each learning episode through the instructor's show of confidence in their capacity to learn and succeed are among the OBE practices that the respondents agreed to have been observed in the classrooms. Although OBE is new in Philippine education setting and much of the academic community send negative signals about its effectiveness, other OBE study outside the country also present similar level of understanding on the OBE implementation as observed based on the respondents' agreements on the adaptation towards the OBE approach and its implementation (Isa, Saman, Tahir, Jani, & Mukri, 2017). The respondents' perception level on this variable suggested a positive recognition of the way they were being molded into how and what they should become at the end of the learning period. While it is important to note that the continued success of OBE lies in the consistent and creative implementation of the four implementation principles (Spady, 1994), the university's OBE implementation reflected the kind of learning environment that is essential to the university's goal in pursuing a culture of quality which is a significant factor in the university's quest for a better competitive edge.

The respondents of this study were graduating students who may have been in the university for four or more years and whose perception level in the university's services represented years of accumulated impression and observation. Among all variables, quality made the lowest Composite Mean which was affected by the lowest mean score on tangibles. Constructs of service quality include tangibles which referred to the material things utilized in the teaching and learning processes that are essential to the fulfilment of quality in education. Impressive appearance of building and ground, comfortable classrooms and study rooms, modern laboratory equipment and facilities which are complete for students'

use, internet connectivity and classroom ventilation and lighting are among the areas pertaining to Tangibles. This result called the need for this aspect of service to be addressed and be given an immediate attention. Findings of a study (Eng, Akir & Malie, 2012) stressed that education in higher learning institutions goes beyond traditional norms of teaching which is why the use of technology (tangibles/facilities) is important in the learning and teaching process. In this case, the tangibles of the university which are supposed to complement the university's OBE implementation and the institution's drive to a culture of quality fell short in its function to complement the works of the university's mission. As to the impact of the tangibles to the university's image and competitive position in the market, the university may experience challenges in its promotion for enrolment and retention as indicated in a study (Mansori, 2014) which suggested that physical facilities influence directly or indirectly on the student's decision to stay in the university and to tell other prospective students to choose the university for their education needs.

On the level of students' satisfaction, knowledgeable and responsive faculty and the students' relationship with the faculty and the university staff have registered high in the survey which meant that the students have positive experience with the teachers and the way they are being treated by both faculty and staff of the university. On the other hand, professional comfortable environment such as cleanliness, canteen facilities and toilet facilities overall have the lowest mean scores. It should be known that canteen and toilets are very basic areas of service in a school community densely occupied by the young and active generation and these students' experience have effects on satisfaction (Launtu, 2016). A study (Karami & Olfati, 2011) revealed that student's satisfaction is a notable concern of service organizations and when a service does not satisfy a customer's need, all other applied business strategies may render insufficient (Tu, Wang & Chang, 2012). Factors that showed low satisfaction ratings should be addressed by the university together with other areas where the culture of quality must pervade if it is to prove its existence effective. A study (Farahmandian, Minavand & Afshardost, 2013) said that failing to realize customer satisfaction becomes one of the major factors for the organization's underperformance in the industry. To note, the image of underperformance in the industry is detrimental to the university's vision of becoming a leading institution.

**Table 1.***Level of Perceptions and Satisfaction on the Independent Variables.*

<b>Variables</b>	<b>Composite Mean</b>	<b>Standard Deviation</b>	<b>Interpretation</b>
VMOC	3.48	.45073	<b>Very High</b> 1-1.45 <i>Very Low</i> 1.46-2.45 <i>Low</i> 2.46-3.45 <i>High</i> 3.46-4.0 <i>Very High</i>
OBE	3.2323	.47923	<b>Agree</b> 1-1.45 <i>Strongly Disagree</i> 1.46-2.45 <i>Disagree</i> 2.46-3.45 <i>Agree</i> 3.46-4.0 <i>Strongly Agree</i>
Service Quality	3.0825	.48161	<b>Agree</b> 1-1.45 <i>Strongly Disagree</i> 1.46-2.45 <i>Disagree</i> 2.46-3.45 <i>Agree</i> 3.46-4.0 <i>Strongly Agree</i>
Student Satisfaction	3.1450	.45672	<b>Satisfactory</b> 1-1.45 <i>Unsatisfactory</i> 1.46-2.45 <i>Less Satisfactory</i> 2.46-3.45 <i>Satisfactory</i> 3.46-4.0 <i>Very Satisfactory</i>

## **PERCEPTION LEVEL ON CORPORATE IMAGE**

Study showed (Table 2) that among the constructs of corporate image, maintained accreditation status has the highest perception level (3.3463). Accreditation paves for the institution's effectiveness as its procedures tinker on the fundamental areas of the university's mission and objectives while it also widens the opportunity for the faculty to grow in their profession resulting to a better delivery of services. The university was awarded twice as the university with highest number of accredited programs in Region 10 (Northwestern Mindanao) by the Philippine Association of Colleges and Universities Commission on Accreditation (PACUCOA). These awards attest the university's commitment to quality education by voluntarily submitting its programs to an accrediting body for evaluation. This result proved true a study (Kim & Hyun, 2011) that said an institution that attempts to establish an image must pursue an outcome that proves the credibility and identity claims of the organizations. As stated in its vision, the university aims to be a leading private institution and as part of evolution, the university is gearing towards internationalization where competition is tougher. With a stiffer competition to deal with, the university's image must therefore be upheld by positive evaluations because the image formed by students are vital marketing tactics (Wilkins & Huisman, 2013). Along with accreditations, other factors that were perceived to have a contribution to the university's image include scholarships which is one of the most attractive factor for enrolment; size of the university which equate the institution's strength in the industry; faculty whose caliber also attracts quality students; and academic programs which are highly relevant to the selections of universities.

**Table 2.***Level of Perceptions the University's Corporate Image.*

<b>Corporate Image</b>	<b>Composite Mean</b>	<b>Standard Deviation</b>
A.Good quality of education	3.2228	0.7775
B.Accessible scholarship programs	3.3173	0.6418
C.Availability of the latest technology and equipment	3.1950	0.6867
D.Maintained accreditation status	3.3463	0.6351
E.Good reputation of the university	3.2733	0.6459
F.Big size of the University	3.2538	0.6819
G.Qualified and competent faculty	3.2265	0.6039
H.Complete library services	3.2454	0.6911
I.Complete laboratory equipment and facilities	3.2433	0.8995
J.Quality student services	3.2698	0.6397
K.Relevant academic programs	3.2662	0.6121
L.Quality Faculty – student relationship and interactions	3.2580	.43655
<i>Over-all mean</i>	<i>3.2580</i>	<i>.43655</i>

*Notes:* 1-1.45 Strongly Disagree 1.46-2.45 Disagree 2.46-3.45 Agree 3.46-4.0 Strongly Agree.

**THE CORRELATION OF CORPORATE IMAGE WITH  
VMOC, OBE, SERVICE QUALITY AND STUDENTS' SATISFCATION**

The statistical treatment of data using Pearson correlations coefficients showed the relationship of the independent variables to corporate image. VMOC and OBE have moderate relationship to corporate image while service quality and students' satisfaction have high correlation to corporate image (Table 3). This result suggested that the said independent variables have the capacity to predict the direction and strength of the university's corporate image and therefore any increase or decrease in the value or quality of their performance can affect the university' image.

**Table 3.**

*Pearson Correlations Coefficients Showing the Significant Relationship of the Factors to the University's Corporate Image*

	<b>Factors</b>	<b>University's Corporate Image</b>
VMOC	Pearson Correlation	.610**
	Sig. (2-tailed)	<b>.000</b>
	N	404
	Interpretation	Moderate correlation
Outcomes-Based Education	Pearson Correlation	.658**
	Sig. (2-tailed)	<b>.000</b>
	N	404
	Interpretation	Moderate correlation
Service Quality	Pearson Correlation	.738**
	Sig. (2-tailed)	<b>.000</b>
	N	404
	Interpretation	High correlation
Students' Satisfaction	Pearson Correlation	.867**
	Sig. (2-tailed)	<b>.000</b>
	N	404
	Interpretation	High correlation

\*\* Highly Significant at .01 level

### **Corporate Image and Students' Satisfaction**

The relationship of corporate image with other variables is also shown using Pearson Correlation Coefficients by ANOVA in Table 3. The result suggested that the major predictors of the university's corporate image are VMOC and students' satisfaction. It further proposes the regression model: University Corporate Image = .372 + .178 VMOC + .747 Students' satisfaction. This result implied that if the university satisfies its students by fulfilling its mission; realizing its goals and achieving its objectives; the results would positively affect the university's image. This result affirmed a study (Tu, Li, & Chih, 2013) which said that corporate image significantly affects customer satisfaction while another study (Zameer, Tara, Kausar & Mohsin, 2015) also stated the same for customer satisfaction. Satisfaction can pave the way for the organization's profitability because an organization that have very satisfied customers are very likely enjoy a positive corporate image (Liat, Mansori, Chuan, & Imrie, 2017) and such organization enjoys the patronage of loyal customers who are willing to pay higher prices, eager to invite other customers to use or avail of the organization's services and voluntarily promote the services to their relatives and friends. Therefore, students' satisfaction should be regarded as the focal point of business activities and be considered as an important business objective (Dado, Taborecka-Petrovicova, Riznic&Rajic, 2011). The value of the coefficient of determination which is 77.30 percent implied that the variability of the perception on the university's corporate image is explained by this much of percentage. There could be some other factors which influenced the students' perception on the university's corporate image. These factors may be explored in another study to be conducted.

**Table 4.**

*Pearson Correlations Coefficients Showing the Significant Relationship of the Factors to the University's Corporate Image.*

Predictors	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	.372	.088		4.244**	.000
Vision, Mission, Objectives, Core Values	.178	.030	.184	5.972**	.000
Students' Satisfaction	.747	.043	.781	17.401**	.000

Dependent Variable: University Corporate Image

\*\* Highly significant at .01 Level

University Corporate Image = 0.372 + 0.178 VMOC + .747

Student Satisfaction R<sup>2</sup> = 0.773

## **CONCLUSION**

This study concludes that the university's VMOC and students' satisfaction are the main correlates of the university's corporate image. It is therefore an important business decision for higher learning institutions to consider the relevance of keeping its commitment to its constituents and fulfilling them with satisfaction because corporate image strongly supports the institution's popularity, boost morale for the stakeholders and gives edge in a competitive education industry.

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**EMOTIONAL INTELLIGENCES: ITS INFLUENCE ON  
THE DECISION - MAKING PRACTICES AND  
CHANGE MANAGEMENT APPROACHES AMONG  
GRADUATE SCHOOL STUDENTS OF A STATE UNIVERSITY**

by

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**ABSTRACT**

Emotional intelligences is believed to be the backbone of effective decision making and in coping up with change. Thus, supporting the claim of the sociologist Emil Durkheim (n.d.), “change is inevitable”. The study focused on the graduate school students of Nueva Vizcaya State University, Bambang Campus as research respondents. The descriptive method of research was used as an approach while the weighted mean and pearson-r were utilized in acquiring the statistical data needed in the study conducted. It was found out in the study that the respondents emotional intelligences were high with a mean score of 3.5 (q.d. “often”), while decision-making practices and change management approaches of the respondents’ were also assessed as high with a overall mean score of 3.50 (very often) and 3.48 (often). It was also found out in the study that all component of decision-making were significant except for routine decision-making which was assessed with a coefficient value of 0.2255 and p-value of 0.8901. in terms of the respondents’ change management approaches it was found out that only the component on people was deemed significant with a correlation value of 0.0413 and a p value of 0.0414.

**KEY WORDS:** Change management approaches, decision-making practices, emotional intelligences

**INTRODUCTION**

Schooling has long been integral part of our life and tradition. Scholars and layman alike have observed that Filipinos attach a very high social, economic, and political value to education. Education to Filipinos is generally believed to be positively associated with the academic degree reached in school. The more the person to reach-up the education ladder, the more educated he is believed to possess. Thus, became the Filipino goal to attain higher education as a way of developing social, economic and political status. (Asuncion, 2004)

It is a classical knowledge that organizational excellence begins with the performance of people. It is what people do or do not do that untimely determines what the organization can and cannot become. They must concentrate on a complex combination of personal, social, organi-

zational, and process factors affecting learning outcomes for professionals while working to create and preserve work environments that are accepted by the organizations and communities. (De Vera, 2003)

Hart and Bredeson (1996) as cited by Mendoza (2007), stressed that professional growth is a continuous process of learning and application, questioning, and development in part because the knowledge bases of professions grow continuously and the settings in which this knowledge is applied leads to changes which in theory will affect the decision-making skills of potential administrators.

According to McMahon (2007), decision-making is the process of identifying and choosing alternative courses of actions based on the values and preferences of the decision-maker. He went further saying that decision-making implies there are alternative choices to be considered, and in such a case the decision maker wants not only to identify as many of these alternatives with our goals, desires, lifestyles, values and so on. This definition stresses the information in gathering function of decision-making, where uncertainty is reduced rather than eliminated.

Future administrators are expected to possess competence which may be developed if they possess a high level of emotional intelligence. Emotional intelligence (EI), also known as emotional quotient (EQ) and emotional intelligence quotient (EIQ), is the capability of individuals to recognize their own emotions and those of others, discern between different feelings and label them appropriately, use emotional information to guide thinking and behavior, and manage and/or adjust emotions to adapt to environments or achieve one's goal(s).

Although the term first appeared in a 1964 paper by Michael Beldoch, it gained popularity in the 1995 book by that title, written by author and science journalist Daniel Goleman. Since this time, Goleman's 1995 analysis of EI has been criticized within the scientific community, despite prolific reports of its usefulness in the popular press.

Empathy is typically associated with EI, because it relates to an individual connecting their personal experiences with those of others. However, a number of models exist that aim to measure levels of (empathy) EI. There are currently several models of EI. Goleman's original model may now be considered a mixed model that combines what has since been modeled separately as ability EI and trait EI. Goleman defined EI as the array of skills and characteristics that drive leadership performance. The trait model was developed by Konstantin Vasily Petrides in 2001. It "encompasses behavioral dispositions and self-perceived abilities and is measured through self-report." The ability model, developed by Peter Salovey and John Mayer in 2004, focuses on the individual's ability to process emotional information and use it to navigate the social environment. Thus, it is the aim of this research to ascertain the emotional intelligences, decision-making practices and level of change management practices among graduate school students of Nueva Vizcaya State University, Bambang Campus.

## OBJECTIVES

To determine the respondents' assessed level of emotional intelligence

1. To determine the respondents' level of decision making skills when along routine, adaptation, innovation, and participation
2. To the respondents' level of change management approaches along people, structure, strategy, technology, and products and services.
3. To determine the significant relationship between the respondents level of emotional intelligence when group according to level of decision making practices.
4. To determine the significant relationship between the respondents level of emotional intelligence when group according their level of change management approaches.

## METHODOLOGY

This research study was conducted using the descriptive correlation research design, utilizing empirical data gathered through the research instruments of the study. This research design enabled the researcher to determine the levels of emotional intelligences, decision-making practices and change management approaches of the respondents of the NVSU, Bambang Graduate school. The researcher made used of mean scores and descriptive and inferential tools in statistics. In describing the data, mean were used and the Pearson *r*, the Coefficient of Determination, were utilized for the inferential treatment.

## RESULTS AND DISCUSSION

**Table 1.**

*Respondents Assessed Level of Emotional Intelligences. (N =50)*

	Mean	Qualitative Description
Emotional Intelligence	3.5	Fairly Often

The table shows the respondents assessed level of emotional intelligence wherein it is reflected by an overall mean score of 3.5 which was qualitatively described as "*Fairly Often*" which indicates that the respondents emotional intelligence is high.

Young (1943) defined emotions as "acute disturbances of the individual..." and believed that emotions made people "lose control". But, not all felt or accepted emotions as "disorganized interruptions" (Salovey and Mayer, 1990). Mowrer (1960) opined that "emotions are of quite extraordinary importance in the total economy of living organisms and do not deserve being put into opposition with „intelligence." The emotions are, it seems, themselves a higher order of intelligence."

**Table 2.**

*Respondents' Assessed Level of Decision Making Practices. (N = 50)*

Decision-Making Practices	Mean	Qualitative Description
Routine Decision-Making	3.52	Very Often
Adaptive Decision-Making	3.49	Very Often
Innovative Decision-Making	3.5	Very Often
Participative Decision-Making	3.48	Very Often
Overall Mean	3.50	Very Often

As presented on table 2 along the respondents level on decision making practices it is shown that “routine decision making” was the highest with a mean score of 3.52, which was followed respectively by “adaptive decision” (3.49), “innovative decision” (3.5) and “participative decision” (3.48) all components were assessed with a qualitative description of “very often.” The components decision making practices was assessed with an overall mean of 3.50 which was qualitatively described as “very often.”

The findings of the study compliments the findings of Mendoza (2007) when she cited Hart and Bredeson (1982) that decision-making is a continuous process of learning and application, questioning and development in part because the knowledge bases of decision making grows continuously in the settings in which knowledge and skills is applied in acquiring changes.

**Table 3.**

*Respondents Assessed Level of Change Management Approaches. (N = 50)*

Change Management Approaches	Mean	Qualitative Description
People	3.45	Often
Structure	3.43	Often
Strategy	3.52	Often
Technology	3.46	Often
Products and Services	3.54	Often
Overall Mean	3.48	Often

As gleaned on table 3 along the respondents assessed level of change management approaches in its different components. It was shown that “products and services” was assessed to have the highest rating with a mean score of (3.54), which is followed respectively by “strategy” (3.52), “technology” (3.46), people” (3.45) and “structure” (3.43) which were all assessed with a qualitative description of “often.”

The findings indicate that change requires concentration on professional effort on a complex combination of personal, social, organizational and process factors that affect learning outcomes as change agent while working to create and preserve work environments that are accepted in organizations and communities. (De Vera, 2003)

**Table 4.**

*Relationship between the Respondents Emotional Intelligences When Grouped with the Components of Their Decision-Making Practices. (N = 50)*

Emotional Intelligences VS Decision - Making Practices	Correlation Coefficient	p-value	Remarks
Routine Decision – Making	0.2255	0.8901	NS
Adaptive Decision – Making	-0.0738	0.8004	Sig
Innovative Decision – Making	-0.6182	0.7188	Sig
Participative Decision - Making	-0.1679	0.1505	Sig

It can be gleaned on the table that there is a high positive correlation between the respondents level of emotional intelligences and decision-making practices of the respondents as shown on the data presented. “Adaptive decision-making” as shown on the table was assessed with a correlation coefficient of (-0.0738), while “participative decision-making” was assessed with a coefficient value of (-0.1679) and “innovative decision-making” with (-0.6182) which is respectively followed by a *p*-value of 0.8004, 0.1505, and 0.7188 the findings based on their correlation coefficient and *p*-value were deemed as “significant.” While the component on “routine decision-making” was assessed with a coefficient value of 0.2255 with a *p* – value of 0.8901 which was assessed as “not significant.” Thus, the findings lead to the rejection of the hypothesis.

**Table 5.**

*Relationship between the Respondents Level of Emotional Intelligences and Change Management Practices. (N = 50)*

Emotional Intelligences VS Change Management Practices	Correlation Coefficient	p-value	Remarks
People	0.0413	0.0414	
Structure	0.5283	0.5284	
Strategy	0.6037	0.6038	NS
Technology	0.5366	0.5367	NS
Products and Services	0.6315	0.6316	NS

It can be inferred on the table that the emotional intelligences of the respondents has significant relationship on the component of "people" with a coefficient of 0.0413 and a p – value of 0.0414 in their change management practices. While on the other components were reflected with the following coefficient value "structure" 0.5283, "strategy" 0.6037, "technology" 0.5366, and "products and services" 0.6315 the said coefficient values are followed by their respective p-values , 0.5284, 0.6038, 0.5367 and 0.6316 which were all assessed as "not significant" which leads to the acceptance of the hypothesis of the study.

Thus, the emotional intelligences of the respondents does not significantly relate with the respondents change management approaches on the are of structure, strategy, technology and products and services. This is supported by Martinez (2000), when she opined that in order to make an organization to work, one must embrace decisions and people and other resources in order to attain common purposes.

## **CONCLUSION**

Based on the findings of the study the following conclusions are drawn.

1. The respondents assessed level of emotional intelligences are high which is reflected by an overall mean of 3.5 or fairly often.
2. The decision-making practices of the respondents were assessed as high with routine decision-making practices as the highest with a mean score of 3.52 and the lowest is participative decision -making practices with a mean score of 3.48 which are all qualitatively described as " very often" practice with an overall mean score of 3.50 or "very often".
3. The respondents assessed level of change management approaches were assessed as high with products and services as the highest with a mean score of 3.54 and structure as the lowest with a mean score of 3.43 which are all assessed qualitatively as "often" all components of the variable were assessed with an overall mean score of 3.48 which is qualitatively described as "often".
4. It was found out that there is a significant relationship between the respondents assessed level of adaptive decision-making (coefficient value -0.0738, p-value 0.8004), innovative decision-making practices (coefficient value -0.6182, p-value 0.7188) and participative decision-making practices (coefficient value -0.1679, p-value 0.1505) while routine decision-making practices was assessed as not significant with a coefficient value of 0.2255 and a p -value of 0.8901.
5. The component along people were assessed as significant which was assessed with a coefficient value of 0.0413 and a p-value of 0.0414 while the following components were assessed as not significant structure (coefficient value 0.5283, p-value 0.5284), strategy (coefficient value 0.6037, p-value 0.6038), technology (coefficient value 0.5366, p-value 0.5367) and products and services (coefficient value 0.6315, p-value 0.6316).

## **RECOMMENDATIONS**

Based on the findings and conclusions of the study the following recommendations are presented.

1. The graduate school may conduct activities like seminars and workshops which are grounded in developing the emotional intelligences of the graduate school students.
2. The practice of including case studies and case analysis may be included in the syllabus in order to expose graduate students on approaches and strategies which may develop their decision – making skills and practices.
3. Further studies on change management approaches may be conducted in order to acquire data which may serve as reference on other studies using different research environments.

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**TRANSNATIONALISM IN THE SOUTHERN MEKONG SUB-REGION:  
A STUDY OF THE ROLE OF ECONOMIC DEVELOPMENT**

by

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**ABSTRACT**

Economic development influences and even improves the lives of people in many ways, including raising standards of living, in addition to increasing awareness and connectivity across national and regional borders. Therefore, economic development is oftentimes viewed as a cause of transnationalism, the attitudes of interconnectivity that transcend borders. In this study, the researcher examined transnational attitudes in the southern Mekong sub-region by answering the question of what do transnational attitudes look like in the southern Mekong sub-region. Data were employed from the Asian Barometer to test the hypothesis gauging transnational attitudes in Cambodia, Laos, Myanmar, Thailand, and Vietnam. The findings indicated that even though transnational attitudes have been prominent, the relationship between economic development and transnationalism has been quite complex. The results have important implications for understanding economic prosperity and transnationalism in the southern Mekong sub-region in an ever-changing Southeast Asian landscape.

**KEY WORDS:** ASEAN, economic development, economic prosperity, transnationalism

**INTRODUCTION**

The rise of transnational attitudes around the globe are of significant interest to many in the scholarly and elite communities. Transnational attitudes can be broadly construed as attitudes of concern and respect towards people, cultures, and places that extend beyond the borders of one's own country (Owen 2018). These attitudes are arguably more prominent in modern times specifically because of globalization. In the globalization era, the people of the world seem to be more interconnected and affectionate towards others than at any previous point in history. Moreover, the technology of today has equipped the citizens of the world with the tools necessary to stay informed of global events. In many cases, economic development and its institutions have provided the resources for individuals to act if needed. It is therefore not surprising that transnational attitudes are emerging.

Economic development is important for understanding transnational attitudes. Recipients of economic development, those who have been able to improve their individual living standards, are in a much better position, than their counterparts, to show concern for transnational issues. On the one hand, it is a matter of money as those with greater incomes have more re-

sources to not only better understand transnational issues, but also to act if needed (Owen 2018). On the other hand, it is a matter of education as the educated have been exposed to a greater variety of topics and social networks to discuss such topics. Therefore, improved standards of living as an outcome of economic development offer individuals the opportunity to be concerned with quality of life issues, in addition to just basic survival (Owen 2018). Since many quality of life issues—that is, clean water, green energy, etc.—in the present are more transnational in nature, having an understanding of these issues likely results in increased concern.

In this study, the researcher conducts a test of transnational attitudes across the southern Mekong sub-region. Transnational attitudes are narrowly defined in this study as the people of the southern Mekong sub-region identifying as Asian, a larger regional identity, in addition to, or perhaps instead of, their respective national identity. The researcher seeks to answer the question of what do transnational attitudes look like across the southern Mekong sub-region. This is therefore part of an exploratory investigation into transnational attitudes in this region using data from multiple waves of the Asian Barometer. First, the researcher briefly summarizes transnational attitudes in the southern Mekong sub-regional context. Next, the researcher discusses the hypotheses and then moves into a discussion of the data, method and the results of this study. The results are that while education is important across the entire region, the overall causes of transnational attitudes are varied and unique to each country. The researcher concludes with a discussion and the important implications of these findings.

### **TRANSNATIONAL ATTITUDES IN THE SOUTHERN MEKONG SUB-REGION**

Even though transnational attitudes are understudied in the southern Mekong sub-region, such attitudes are actually quite prevalent throughout the entire region. Using survey data from the Asian Barometer, Table 1 presents transnational attitudes across the countries of the southern Mekong sub-region. Transnational attitudes range from a low of around 40 percent in Myanmar to almost 88 percent in Vietnam. In the cases of Cambodia, Laos and Vietnam, the percentage of those with transnational attitudes greatly outnumbers those without such attitudes, ranging from over 60 percent in Laos to almost 88 percent in Vietnam. While in Thailand, just over half of the Thais surveyed identify as having transnational attitudes. In the case of all these countries, autocracy is the regime type.

**Table 1.**

*Transnational Attitudes in the Southern Mekong Sub-Region.*

	Cambodia	Laos	Myanmar	Thailand	Vietnam
Transnational Attitudes	78.6%	61.3%	39.6%	54.9%	87.2%
Have	795	605	396	549	869
Don't Have	216	382	603	451	128
Total	1011	987	999	1000	997

**Source:** Asian Barometer: 2006 and 2007 Waves.

Transnational attitudes in the southern Mekong sub-region are likely encouraged through at least two international institutions: The Association of Southeast Asian Nations (ASEAN) and the United Nations (UN). ASEAN has been a proponent of economic and social exchanges across the entire Southeast Asian region. ASEAN is the regional organization that promotes regional peace, cooperation, stability, development and mutual respect among the people of the Southeast Asian countries. It was formed in 1967 by the founding member states—that is, Indonesia, Malaysia, the Philippines, Singapore and Thailand. Over the next several decades other states joined, namely Brunei, Cambodia, Laos, Myanmar and Vietnam. Even though most countries in ASEAN have economic and social challenges, cooperation and exchange within the regional context is relatively high (“ASEAN Conception and Evolution” 2012).

The UN is a global institution that connects the people of the southern Mekong sub-region with the rest of the world. From this interconnectivity, the transnational attitudes may be evolving to concern for people outside of the southern Mekong sub-region. For instance, Thailand now has its first representative for human rights at the United Nations. Praya Suandokmai (Lundberg) was appointed as Thailand’s first Goodwill Ambassador of the United Nations High Commissioner for Refugees (UNHCR) on January 31, 2017. Praya transformed from a successful Thai celebrity to global humanitarian as she informed the Thai populace of the plight of more than 650,000 Syrian refugees in Jordan (Tantiwarodom 2017). This is done through the Thai language. Perhaps others will follow this pathway that Praya and Thailand have set.

Collectively, these are clear examples of transnationalism in the region. While transnationalism seems to be prevalent across the southern Mekong sub-region, the causes remain virtually unknown. Interestingly enough, these countries are in fact autocratic, even though transnationalism seems to be relatively high. This not only makes for an interesting study, but also timely given the modern regime type challenges.

**HYPOTHESES**

Following the causal discussion above, a single hypothesis is derived and tested:

- H1: People are more likely to have transnational attitudes when they benefit directly from economic development. Individual benefit directly from economic development offers individuals certain freedoms, such as exposure to new people and ideas, which others do not possess. Globalization offers individuals not only exposure to other cultures

and societies, but also an awareness to the suffering and injustices around the region and the globe. With access to resources, such as higher living standards, education, and income, individuals can better understand and interpret issues and challenges that are attributed to people different than themselves. In other words, globalization offers individuals across the world opportunities for international interaction that can lead to greater cultural awareness and understanding (Owen 2018; Vaitos 1978). This in turn can lead to increased transnational attitudes.

## **DATA AND METHODS**

To test the above hypotheses, data is assembled from the 2006 and 2007 waves of the Asian Barometer. The Asian Barometer is the prominent survey across the regions of East Asia, Southeast Asia, and South Asia that gauges public opinion on economic, political and social issues (“Asian Barometer” n.d.). The Asian Barometer is the best data for this study for at least three important reasons. First, all southern Mekong sub-region countries are represented across these waves of the Asian Barometer. Second, the data used in this study was collected after the people of these countries had the opportunity to benefit from ASEAN membership. This is quite important for understanding transnationalism as much of the new wealth in these countries is a product of this regional interaction (Owen 2018). Finally, this barometer also provides important regional identifiers, such as capital cities and urban areas, which allows for the controlling of regional identifiers where economic development is more likely to be present. Logistical regression is used specifically because of the nature of the dependent variable.

### **Dependent Variable**

The dependent variable is from a single questionnaire item used to understand respondents’ transnational attitudes. The Asian Barometer measures how people report their identity as part of a larger Asian identity that transcends national borders. Their Asian transnational identity is measured on a 2-point scale from no Asian transnational identity to an Asian transnational identity. Even though measurement error is a concern in any study using survey data, there is no reason to believe any of these measures induced bias.

### **Independent Variables**

The primary research question explores the causes of transnational attitudes. The hypothesis proposes a relationship between transnational attitudes and economic development where those who have benefited from economic development have articulated transnational attitudes. In other words, their individual standards of living have improved significantly and this translates into a broader exposure to and concern for issues that are important not only to themselves, but to others, even outside of their country and the broader region. The Asian Barometer measures how people report their standard of living on a 5-point scale from low to high.

Other measures of economic development also provide insight into this causal pathway. First, socioeconomic status (SES) is employed as both education and income typically offer addi-

tional insight into economic development and transnational attitudes (Chen and Zhong 1999; Shi 2000; Zhong, Chen and Scheb 1998). Individuals with higher education levels tend to have the knowledge needed for upward mobility, in addition to exposure to differing perspectives and the capacity to process and understand both different perspectives and larger amounts of information than their counterparts. Those with higher incomes tend to have a greater stake in economic, political, and social outcomes, in addition to leisure time and freedoms that larger incomes provide (Chen and Zhong 1999; Lake and Huckfeldt 1998; Lipset 1959; Owen 2013; Verba and Nie 1972; Wolfinger and Rosenstone 1980; Zhong and Kim 2005). Urbanization also matters as those from urban areas typically possess attitudes that differ from those in the countryside (Owen 2015; Owen 2013; Zhong 2004). Urban dwellers typically are exposed to individuals from different parts of the world, which translates into more refined and tolerant attitudes (Owen 2018). This survey measures how people report SES—both education and income—and residence—that is, urban and/or the capital city—on a major public opinion survey by asking the respondents to state their highest education completed, income level, and current place of residence.

### **Control Variables**

A few variables are related to transnational attitudes and it is therefore important to control for them in this study. It is expected that demographics, both age and gender, offer some explanatory power when attempting to understand attitudes (Chen and Zhong 1999; Shi 2000; Zhong and Kim 2005; Zhong, Chen and Scheb 1998). The Asian Barometer measures how people report their age and gender on a major public opinion survey.

## **RESULTS**

Tables 2 presents the results of this analysis. Even though prominent transnational attitudes are present, the findings across these countries differ considerably. Across the countries in the southern Mekong sub-region, the hypothesis is supported across most economic development measures in Thailand. Living standards and education matter considerably as they increase the likelihood of having transnational attitudes by 1.263 and 1.283 times respectively in Thailand. Moreover, both urban dwellers and residents of Bangkok have greater transnational attitudes as these increase the likelihood of having transnational attitudes by 1.516 and 1.715 times respectively. Interestingly enough, the only economic development measure that is statistically insignificant in Thailand is income, meaning that transnational attitudes amongst the various income levels cannot be statistically differentiated.

**Table 2.**

*Logistical Regression Results of Transnational Attitudes in Southern Mekong Sub-Region.*

	<b>Transnational Attitudes</b>									
	<b>Cambodia</b> (S.E.)	Odds Ratio	<b>Laos</b> (S.E.)	Odds Ratio	<b>Myanmar</b> (S.E.)	Odds Ratio	<b>Thailand</b> (S.E.)	Odds Ratio	<b>Vietnam</b> (S.E.)	Odds Ratio
<i>Beneficiaries of Econ Dev</i>										
Living Standard	.0006 (0.114)	1.006	0.125 (0.109)	1.133	0.253** (0.111)	1.288	0.233* (0.136)	1.263	-0.167 (0.157)	0.846
Education	0.328*** (0.110)	1.388	0.163** (0.072)	1.177	0.124** (0.060)	1.132	0.250*** (0.071)	1.283	0.131** (0.060)	1.140
Income	0.171*** (0.043)	1.187	0.004 (0.013)	1.004	0.031 (0.034)	1.032	0.022 (0.020)	1.022	-0.025 (0.039)	0.975
Urban	-		-		-		0.416** (0.170)	1.516	-	
Bangkok	-		-		-		0.539*** (0.190)	1.715	-	
Hanoi	-		-		-		-		0.385 (0.335)	1.470
Phnom Penh	-0.066 (0.191)	0.937	-		-		-		-	
Vientiane	-		0.142 (0.134)	1.153	-		-		-	
Yangon	-		-		0.123 (0.154)	1.131	-		-	
<i>Demographic Factors</i>										
Age	-0.003 (0.007)	0.997	0.006 (0.006)	1.006	-0.002 (0.006)	0.998	0.008 (0.005)	1.008	-0.004 (0.008)	0.996

**Table 2.** (continued)

	Transnational Attitudes									
	<b>Cambodia</b>	Odds Ratio	<b>Laos</b>	Odds Ratio	<b>Myanmar</b>	Odds Ratio	<b>Thailand</b>	Odds Ratio	<b>Vietnam</b>	Odds Ratio
Female	(S.E.) -0.631*** (0.167)	0.532	(S.E.) -0.136 (0.139)	0.873	(S.E.) -0.514*** (0.133)	0.598	(S.E.) -0.057 (0.132)	0.945	(S.E.) -0.311 (0.194)	0.732
Log Likelihood	-491.211		-647.303		-654.165		-657.251		-376.012	
N	1011		981		999		1000		997	

**Source:** 2006 and 2007 Asian Barometer.

**Notes:** \* - .10 statistical significance level.

\*\* - .05 statistical significance level.

\*\*\* - .01 statistical significance level.

The rest of the southern Mekong sub-region countries also have important findings. First, living standards and education matter in Myanmar as they increase the likelihood of transnational attitudes by 1.288 and 1.132 times respectively. Next, education and income increase the likelihood of transnational attitudes in Cambodia by 1.388 and 1.187 times respectively in Cambodia. Myanmar people and Cambodians with transnational attitudes are also male as being female decreases transnational attitudes by 0.598 and 0.532 times respectively. Finally, only education matters in Laos and Vietnam as it increases the likelihood of transnational attitudes by 1.177 and 1.140 times respectively.

## **DISCUSSION**

Collectively the findings tell an interesting southern Mekong sub-regional story. Perhaps the most important part of this story is that education matters across the region. Others have argued that education is important in so many ways and it is now clear that education is important as the region moves forward towards increased communication and cooperation (Owen 2018). Next, other factors of economic development matter in a more limited scope. Perhaps the final important regional takeaway is that males and females share these attitudes across Thailand, Vietnam, and even Laos.

## **IMPLICATIONS**

While transnational attitudes are present in all of the southern Mekong sub-regional countries, the causes do vary. With that stated, education seems to be quite important in each country, though the stories differ from most economic development measures mattering in Thailand to only education mattering in Laos and Vietnam. It is evident that economic development matters, especially as it relates to education, though the story is still a complex one. The primary reason for the complexity is that living standards, income, and urban living seem to be important only some of the time. Only in the case of Thailand are most of the measures of economic development statistically significant—that is, with the exception of income levels. In conclusion, the most important contributions of this study are not only that that transnationalism is important, but also the variation in causes at the country level and perhaps even the subnational level. Now that it is clear that transnationalism matters in Southeast Asia, it is time to start exploring other potential explanations for transnational attitudes and unfold the stories across the region.

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**THE CONNECTION BETWEEN FACEBOOK MONITORING BEHAVIOR,  
RELATIONAL UNCERTAINTY, RELATIONAL SATISFACTION, AND  
RELATIONSHIP QUALITY AT WORKPLACES:  
IS FACEBOOK A BAD GUY?**

by

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**ABSTRACT**

This quantitative study aims to investigate the dynamism of interpersonal relationship in workplace context in evolving environment of a social networking service (SNS), or social media, particularly Facebook. Therefore, the major research question was “What are the influences of Facebook monitoring on the partners’ activities on relationship quality at workplaces?”. Conceptual frameworks included (1) uncertainty reduction, (2) usage of Facebook, and (3) relationship quality. Selected by a snowball-sampling technique, samples were those who (1) were currently employed and operating in any workplace, (2) had a Facebook account with at least 5 or more of their colleagues in their friend list, and (3) lived in Bangkok. Questionnaires were distributed on-line, of which 213 were completed and returned, and the data were statistically analyzed—regression analysis. Results indicated that (1) monitoring Facebook activities of the romantic partners did not decrease satisfaction in their current relationship, (2) increased monitoring of Facebook activities of the partners did not lead to a greater uncertainty in their relationship, (3) greater uncertainty in a relationship adversely affected relationship quality, (4) greater satisfaction in a relationship correlated with greater relationship quality, and (5) increased monitoring of Facebook activities did not negatively correlate with relationship quality. Implications are that Facebook has enormous influences, positively and vice versa, in relationship quality at workplaces and needs to be further studied.

**KEY WORDS:** Facebook, relationship quality, interpersonal communication, social networking service (SNS), relational communication, workplace, uncertainty reduction theory.

**INTRODUCTION**

For all humans, interpersonal communication and interpersonal relationship are considered a core of human experience according to the nature of humankind’s social needs (Morgan, Salitsky, Stutzer, & Thomas, 2016). A social networking service (SNS), or social media, is a technological enhanced channel of communication widely used nowadays. SNSs have granted us an ability to communicate with others, wherever and whenever. Generally speaking, SNSs are a new medium reshaping how we communicate with one another, or our interpersonal relationship (Hawn, 2009). Several studies have explained how the SNS sites affected the interpersonal communication and interpersonal relationship. Tong, Van Der Heide, Langwell, and Walther (2008) stated that “too many friends” on Facebook could make Facebook users worried about their popularity and social desirability. Also,

Baym, Zhang, Kunkel, Ledbetter, and Lin ( 2007 ) suggested that relationship quality and satisfaction did not rely on media use but the status and role of the participants in their real-life relationship.

As commonly known, SNSs and interpersonal relationship are dynamic and ever-changing, which demands up-to-date studies on these two areas. Facebook in Thai context was chosen for this study because (1) Facebook was labelled as one of the most globally popular SNS sites with 1,712 million active users in 2016 (Statista, 2016) and (2) Bangkok was noted as a “biggest Facebook city” based on the number of Facebook accounts in Bangkok outnumbering the actual population of Bangkok in 2013 (Socialbakers, 2013).

At the same time, uncertainty reduction theory (Berger & Calabrese, 1975) has posited that people seek information about their relational partners in order to ensure their relationship quality, but information may not always enrich their relationship because sometimes information may increase uncertainty in their relationship. Combining this concept to that of usage of Facebook in different ways for different purposes Heino, 2006) should help investigate the issue in this study. The results of this study then may help understand the SNS process and its effects on social interactions and social learnings of humans..

## **LITERATURE REVIEW**

### **Uncertainty Reduction and Interpersonal Relationships**

Uncertainty reduction theory (Berger & Calabrese, 1975) posited that people seek the information about their relational partners and/or potential partners to gain confidence in order to initiate the relationship, while the continual of the information-seeking process leads to disclosure of their relational partners and/or potential partners. Such a process creates and develops intimacy in interpersonal relationships. Theiss and Solomon (2008) also suggested that intimacy is a key to create a healthy relationship because it is a foundation for trust and conflict management which finally creates relational satisfaction.

Even if a positive effect on development of relationships is found, the information-seeking process may generate surveillance behavior toward current romantic partners, which is under intention to maintain relationship. In other words, uncertainty reduction process through information-seeking also play a role in relational maintenance, positively and negatively (Stewart, Dainton, & Goodboy, 2014). In conclusion, uncertainty reduction in information-seeking process leads to intimacy, relational development, and relational maintenance within an objective to pursue relational quality.

At the very first stage of disclosure (as part of information seeking process), especially in intimate relationship, obtained information is reportedly as possibly superficial and unreliable (Yang, Brown, & Braun, 2013). However, after time goes by, partners may seek further information about their counterparts with more intimate, personal, judgmental, and deeper questions (Ayres, 1979). With these “in-depth” questions, the couple is likely to share not only mere information but also their life experience and feeling for their own experience. In other words, a person reportedly seeks in-depth information of their intimate partners to reduce uncertainty by three tactics including (1) a passive tactic, (2) an active tactic and (3) an interactive tactic (Antheunis, Schouten, Valkenburg, & Peter, 2012; Antheunis, Valkenburg, & Peter, 2010; Theiss & Solomon, 2008). Passive tactics refer to observing inconspicuously while active tactics refer to interactive information-

seeking activities including asking other people for information about their relational partners. Interactive tactics refer to making a direct contact with a person of interest. In social media, all three tactics have been used for reducing uncertainty, especially the passive tactics which include observing the online profile and activities of intimate partners possibly done inconspicuously.

### **Social Media Use and Uncertainty Reduction in Intimate Relationships**

Computer mediated communication (CMC) provides a very unique means of communication and a unique form of relationship differing from the traditional one or face-to-face communication (Rau, Gao, & Ding, 2008). SNSs as part of CMC include Facebook, Hi5, and MySpace; also, online dating sites like Tinder count. A special characteristic of SNSs is “profile” of the users illustrating their identity, personal life issues and, sometimes, opinions, which make the users value their own account (Rau et al., 2008; Sheldon., 2008). The “profile” feature of SNSs is seen as a source of information in uncertainty reduction process because it is the image of the relational partners.

People are motivated to use SNSs by some forces; they want to keep in touch with friends, family and significant others, broaden their social network for professional purpose and self-development, look for networking with common interests, and cure the loneliness (Antheunis et al., 2010; Sheldon., 2008; Yang et al., 2013). Furthermore, social media may serve other social functions, including (1) emotional release, (2) interpersonal relationship development and relationship maintenance, (3) personal identity reinforcement and (4) surveillance on other people (Sheldon, 2008). Therefore, SNS is a platform that people may use to seek and share one another’s information in order to make disclosure and reduce uncertainty in their relationships.

However, self-presentation in SNSs is different from that in real life experience. Gibbs et al. (2006) reported that people tend to be more dishonest about details such as physical appearance and conceal the flaw and negativity about themselves on dating sites in order to gain social desirability which leads to successful initiation of relationship in real life. Also, Ellison, Heino, and Gibbs (2006) identified three tactics the SNS users employed to adjust their self-presentation online, including (1) leaving fewer cues, (2) balancing between accuracy and desirability, and (3) establishing credibility; all three tactics can be used in combination to create a selective self-presentation of an individual. In other words, the SNS users try to (2) balance the accuracy of information and their own ideal self which linked to social desirable traits they perceived from the social context and (2) adjust the information as they please upon available features of SNSs. This, hence, makes the difference between face-to-face communication and CMC.

The process of selective image is common, and usually people are likely to avoid sharing intimate information (including the flaws and negative information) in real life. Unfortunately, on top of that, nowadays with the SNSs as a new channel has allowed people to reconstruct and manipulate their online image more conveniently (Gonzales & Hancock, 2010). Because of frequent unreliability of online sources and information via SNSs; people are aware and then employ uncertainty reduction strategies to cross-check online sources and information (e.g. Google) with the profile of their significant others available or given by themselves (Gibbs, Ellison, & Lai, 2010). In other words, when on SNSs, people are likely to be more dishonest while trying to detect the dishonesty of others.

## **Social Media Use and Relationship Quality**

SNSs are connecting people and play a role as a tool of communication people use to build and sustain relationships. However, the connection between SNSs and human relationship is still in questions and needs to be investigated. Studies found the negative effects of Facebook on romantic relationships, especially as the source of jealousy and dissatisfaction; for example, Elphinston and Noller (2011) suggested that using Facebook can enhance psychological well-being for couple but at the same time can also increase the possibilities to jeopardize the relationship with jealousy from surveillance behavior. Facebook wall, profile and friend list not only were a source of information for self-disclosure but also appeared to be a potential source of unwanted data that led to jealousy and dissatisfaction. Also, some studies found partners were likely to perceive the past romantic or sexual partners as a potential threat of relationship (cf. Muise, Christofides, & Desmarais, 2009). On the other hand, certain studies reported that Facebook did not halt relationship quality but actually dissatisfaction and an uneasy situation between partners, because of Facebook overuse behavior and low level of trust and intimacy in newly-engaged relationship situations (Clayton, Nagurney, & Smith, 2013; Hand, Thomas, Buboltz, Deemer, & Buyanjargal, 2012).

Thus, this study aims to study the effects of Facebook monitoring of romantic partners' activities on romantic relationships quality, and the hypotheses are as follows:

- H1: People who monitor a romantic partner's Facebook activities will report feeling less satisfied in their current relationship.
- H2: Increased monitoring of Facebook will correlate with greater uncertainty in romantic relationship.
- H3: Greater uncertainty in a relationship will adversely affect relationship quality.
- H4: Greater satisfaction in a relationship will correlate with greater relationship quality.
- H5: Increased monitoring of Facebook activities will negatively correlate with relationship quality.

## **METHODOLOGY**

### **Sample and Data Collection**

This study employed the samples who were those currently engaging in any kind of romantic relationship, had a Facebook account with their partner in their friend list, and resided in Bangkok. Snowball and convenient sampling techniques were utilized in this study by asking the researcher's Facebook friends currently engaging in a romantic relationship to complete the survey and share to others with the same condition. The researcher obtained a total of 213 completed surveys for analysis. Descriptive characteristics of the samples was reported in Table 1 below.

**Table 1.**

*Descriptive Characteristics of the Samples.*

<b>Demographic factor</b>	<b>Descriptive statistics</b>
Age	Mean: 24.47    Standard deviation: 4.8
Gender	Male: 96 (45.1%)    Female: 117 (54.9%)
Frequency of Facebook use	Daily: 207 (97.2%)    Not daily: 6 (2.8%)
Hours spent on Facebook/week.	1-2 hours/week: 16 (7.5%) 3-4 hours/week: 40 (18.8%) 5-6 hours/week: 21 (9.9%) 7-8 hours/week: 29 (13.6%) 9-10 hours/week: 23 (10.8%) More than 10 hours/week: 84 (39.4%)
Relationship status listed on Facebook.	Did not show: 93 (43.7%) Single: 41 (19.2%) In a relationship: 59 (27.7%) Engaged: 1 (0.5%) Married: 8 (3.8%) In an open relationship: 1 (0.5%) It's complicated: 9 (4.2%) Divorced: 1 (0.5%)
Length of current relationship	Less than 1 year: 74 (34.7%) 1-2 years: 63 (29.6%) 3-4 years: 40 (18.8%) 5-6 years: 12 (5.6%) 7-8 years: 4 (1.9%) 9-10 years: 9 (4.2%) More than: 10 years 11 (5.2%)

## Measures

The main independent variable was measured by asking respondents about their surveillance behavior on their relational partner via Facebook using *Facebook monitoring scale*. This scale was adapted from Farrugia (2013) partner surveillance scale ( $\alpha = .84$ ). The scale was altered for this research by changing some terms and cutting out some questions that were not found to be highly reliable in order to be used under the context of communication experience via Facebook. A Likert scale ranging from 1-5 (strongly disagree to strongly agree) was employed, and 14 questions were administered. Three main dependent variables, including (a) relationship satisfaction, (b) relational uncertainty, and (b) relationship quality were measured, and the details are below.

*Relationship satisfaction scale*. The scale ( $\alpha = .86$ ) was invented by Hendrick (1988) and used in this study to examine the satisfaction of individuals towards their relationship, while a Likert scale ranging from 1-5 but with different wording (highly unsatisfied to highly satisfied) was utilized. Three questions of this scale were administered.

*Relational uncertainty scale*. This scale was originally created by Knobloch and Solomon (1999) and later modified by Bevan (2004) in order to focus on examining relational uncertainty ( $\alpha = .90$ ). Also, a Likert scale ranging 1-5 (strongly disagree to strongly agree) was utilized while eight questions were administered.

*Relationship quality scale*. This scale was originally created as “Quality Marriage Index” by Norton (1983) and later modified by Goodboy, Myers, and Members of Investigating (2010) to be used to examine all forms of romantic relationships’ quality ( $\alpha = .95$ ). Also, a Likert scale ranging 1-5 (strongly disagree to strongly agree) was utilized while six questions were administered.

In addition to the main independent variables, other key factors that may affect relationship satisfaction, relational uncertainty, and relationship quality were also collected, including: (a) gender, (b) age, (c) frequency of checking Facebook accounts, (d) time spent on Facebook, (e) self-disclosure about relationship status on Facebook, and (f) length of current relationship. *Gender* was measured as a dummy variable (females=0; male=1); *Age* was measured in years; *frequency of checking Facebook account* was measured as a dummy variable (do not check every day=0; check every day = 1), *time spent on Facebook* was measured in seven ranges (0 hours, 1-2 hours/week, 3-4 hours/week, 5-6 hours/week, 7-8 hours/week, 9-10 hours/week and more than 10 hours/week); *self-disclosure about relationship status on Facebook* was measured as a nominal scale with 12 choices (according to the real 11 relationship statuses available on Facebook including: single, in a relationship, engaged, married, in a civil union, in a domestic partnership, in an open relationship, it’s complicated, separated, divorced, widowed, and did not show); and *length of current relationship* was measured in seven ranges (less than 1 year, 1-2 years, 3-4 years, 5-6 years, 7-8 years, 8-9 years and 10 years or more).

## Estimating Technique

The researcher used Ordinal Least Squares (OLS) regression to analyze the data and estimate the relationship between variables. The IBM SPSS statistics version 20 was utilized to perform this analysis

## **RESULTS**

Before the data analysis, reliability of each scale used in this study was tested by Cronbach's alpha coefficient. The results exceeded a widely acceptable value at 0.7 (as reported in Table 2). These scores were averaged to create summated scales for regression analysis.

**Table 2.**

*Results from Reliability Test.*

Variables	Facebook monitoring	Relational satisfaction	Relational uncertainty	Relationship quality
Cronbach alphas ( $\alpha$ ) coefficient	0.821	0.807	0.852	0.921

Bivariate correlation analysis was also conducted by using Pearson correlation coefficients in order to explore the relationships between variables. Results were reported in Table 3.

**Table 3.**

*Correlation among Variables.*

Variables	2	3	4	5	6	7	8	9
1.Facebook monitoring	-.014	-.016	.040	.002	-.243**	.119	.257**	.073
2.Relationship satisfaction	1	.743**	-.558**	.069	.023	-.070	.044	-.021
3.Relationship quality		1	-.668**	-.015	.014	-.025	.124	-.038
4.Relational uncertainty			1	.031	-.102	-.051	.003	.029
5.Gender				1	.130	.040	.041	-.097
6.Age					1	-.179**	-.039	.125
7.Frequency of Facebook use						1	.217**	.011
8.Time spent on Facebook							1	.045
9.Relationship length								1

*Notes:* \* p<0.05, \*\*p<0.01.

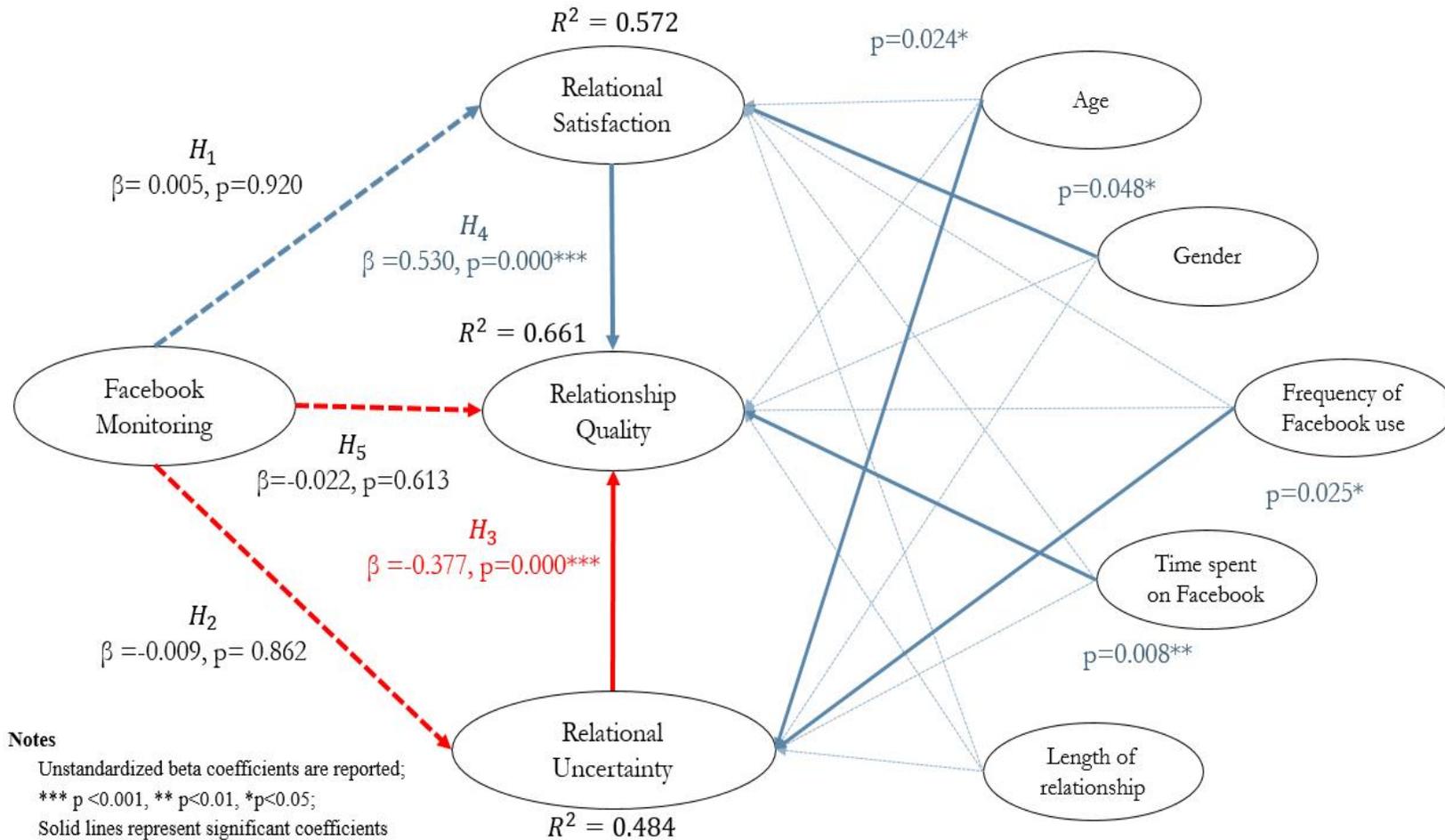
Results from the OLS regression analysis were employed in response to all the given hypotheses. Hypothesis 1 predicted a negative relationship between Facebook monitoring behavior and relational satisfaction. The result reported that the relationship between Facebook monitoring behavior and relational satisfaction was positive and it was not statistically significant ( $\beta = 0.005$ ;  $p = .920$ ). Therefore, hypothesis 1 was not supported.

Hypothesis 2 predicted a positive relationship between Facebook monitoring behavior and relational uncertainty. The result reported the negative relationship and it was not statistically support ( $\beta = -0.009$ ;  $p = .862$ ). Therefore, hypothesis 2 was not supported.

Hypothesis 3 predicted a negative relationship between relational uncertainty and relationship quality. The result indicated the positive relationship between the variables and it was highly statistically significant ( $\beta = -0.377$ ;  $p = .000$ ). Therefore, hypothesis 3 was supported. Hypothesis 4 predicted a positive relationship between relational satisfaction and relationship quality. The result reported relational satisfaction and relationship quality were positively related and highly statistically significant ( $\beta = -0.530$ ;  $p = .000$ ). Therefore, hypothesis 4 was supported.

Hypothesis 5 predicted a negative relationship between Facebook monitoring behavior and relationship quality. The result indicated a negative relationship between the variables but it was not statistically significant ( $\beta = -0.022$ ;  $p = .613$ ). Therefore, hypothesis 5 was not supported. Overall, the results from the OLS regression analysis are presented in Figure 1.

Figure 1. Regression Results



In order to avoid questions about multicollinearity among all variables in each equation, the Variance Inflation Factor (VIF) statistics was evaluated. The VIF values ranged from 1.043 to 1.927, which was in an acceptable range.

## **DISCUSSION AND CONCLUSION**

This study aimed to find, in particular, a negative relationship between Facebook monitoring behavior and relationship quality. However, the results from regression analysis indicated that Facebook was not found guilty. All hypotheses involving Facebook monitoring behavior (Hypothesis 1, 2 and 5) were not supported and statistical significance was not found. The results of this study were in accordance with those of the previous studies reporting no evidence of harm on relationship by Facebook monitoring behavior (Clayton et al., 2013; Hand et al., 2012). By the way, the result indicated that uncertainty reduction theory was reliable; that is, those with high relational certainty were likely to have high relational satisfaction, which may lead to high quality relationship. Therefore, with or without computer mediated communication context, the uncertainty reduction theory itself is considered practical and valid for explaining romantic relationship.

Weaknesses in this study exist. First, diversity of the samples was rare. The majority of the samples consisted of the young (mean: 24.47 years old; standard deviation: 4.8), the heavy-users of Facebook (97.2% of them checked Facebook daily and 39.4% spent more than ten hours a week on Facebook), and those who were engaged in an early stage of relationship (34.7% of them were in less than a year of relationship and 29.6% in 1-2 years of relationship). Thus, a larger sample size with higher diversity is recommended for future research. Second, data collection process in this study was fully self-administered and conducted completely via the online survey tool. This raises concerns about both authenticity of the respondents and trustworthiness of the data. Third, keep in mind that Facebook-monitoring behavior may not have played an important role as it was expected. Future research should consider other aspects of Facebook, such as Facebook addiction, positive effects of Facebook use on relationship.

Implications of this research should contribute to those who wish to enrich their relationship. That is, Facebook use by itself neither does harm nor benefits relationship directly, but relational satisfaction and relational uncertainty seem to be the keys. Also, the nature of a communication medium to maintain your relationship quality may be important, but not as important as both quality and quantity of the information or messages that lead to “certainty” or the peace of mind of all involved parties.

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**AN ANALYSIS OF FARMERS' COMPETENCIES IN  
PREPARATION FOR A SMART FARMER**

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**ABSTRACT**

Based on the quantitative research, the main purposes of this study was to investigate the farmers' basic information, as well as to analyze their competencies related to the smart farmers' six major qualifications set up by the Ministry of Agriculture and Cooperatives. For research methodology, an open-ended questionnaire and an aptitude test on smart farmer's competencies were both conducted with 400 farmers in Phrae province. Statistical descriptions used in this study included Percentage, Max, Min, Standard Deviation, Mean, and Chi-Square. The research findings revealed that no correlations on the farmers' basic information and their level of competencies were mostly found, meanwhile the farmers' competencies with its minimum (4 points), its maximum (23 points), and its mean (11.98 points) were mostly rated. Also, the applications of information technology and innovations to effectively managing agricultural products, supply chains, as well as other agricultural standards were all supported for the consumers' life security.

**KEY WORDS:** Curriculum development, farmers development, smart farmers, training course, agricultural extension work

## **INTRODUCTION**

Nowadays, small farmers in the agricultural sector of Thailand have faced various problems, whether problems arising from domestic factors such as natural disasters. The agricultural resources are being deteriorated. Small farmers lack knowledge of proper use of production factors. The absence of agricultural knowledge about commodities of cultivation resource management, marketing, rustic plan, handling technologies, including agriculture modifications. Obstacles in the arbitration of farming commodity values, the over-capacity of agricultural produce and price reduction, as well as the current differences in the structure of the population, the agricultural sector is infiltrating the elderly farmers' society, resulting in a deficiency of agricultural laborers and dilemmas arising from various circumstances from international, such as imports of agricultural commodities from neighboring countries, liberalization of agricultural produce, trade restrictions and changes in the global agricultural commodities market, which those issues are regularly affecting small farmers (Sakorn, 2015, Office of Agricultural Economics Ministry of Agriculture and Cooperatives, 2016, Kanlayanee, 2014)

In the year 2006, Charan Trinwuttipong, the former deputy to the Minister of Agriculture and Cooperatives, said that “Thai agriculture is vital to national development. But it appears that the potential for producing Thai agricultural products is lower than in other sectors, that is, the agricultural sector uses a lot of labor”. But receive the lesser Gross Domestic Product (GDP) when measuring the labor ratio per Gross Domestic Product (GDP) of the agricultural sector is almost 11 times of the industrial sector or equivalent to about 4 times of the commercial and retail sectors, such numbers reflect that Production efficiency in the agricultural sector is low, therefore resulting in a return on labor or the income received from that labor is moderate resulting in farmers having low income per person as well the proportion remains 1,230 baht per person per month.” Therefore, the main goal for each agricultural division to continue to move from the agricultural area to the industrial sector with higher incomes (Laoruchisawat, 2013).

From problems those were mentioned before the Ministry of Agriculture and Cooperatives, which is the main bureau concerning of the advancement in the agricultural area of Thailand, therefore everybody in the Ministry of Agriculture and Cooperatives endeavored to resolve obstacles that were concrete. In 2012, the Minister of Agriculture and Cooperatives had given out the policies and guidelines for the administrators and officials of the Ministry of Agriculture and Cooperatives, by stipulating precise policies that important to the advancement of the agricultural sector. “Thai Farmer is a Smart Farmer with a Smart Officer as a Friend” which “Smart Farmer” To signifies a farmer who knows the matter with knowledge for making judgments with commodity and marketing management with the awareness of product quality and consumer safety and responsibility for the environment/society, also to be proud of being a farmer and “Smart Officer.” The administrators and officials of the Ministry of Agriculture and Cooperatives that has a love for farmers like relatives with academic knowledge and policies to use of technologies to help farmers strengthening producers and farmers' organizations aiming to bring farmers to becoming green economy and zero waste agriculture with pride in the organization and being a civil servant. (Smart Farmer and Smart Office Policy Steering Committee, Department of Agricultural Extension, 2013)

The Thailand Development Research Institute (TDRI), had revealed the scientific evidence that in the next 30 years, the temperature tends to increase. As a result, the agricul-

tural division may be altered in the indications of the amount of water, which remains an important factor in production. (Thammaphanichwong, 2015)

The major factors in production and terms of volume of product, if farmers are empowered, they can adjust themselves to cope with the effects of climate change. From the results of the study, it is found that farmers who have developed agricultural competencies, can adapt in many ways such as changing the planting calendar, changing plants and change the species, etc., the key to promoting adaptation to support climate change, is to adjust the paradigm or the way of thinking of farmers. By practicing for farmers to be able to plan long-term, to support future situations and taking into account the stability of the annual income, to be enough to support the family, in addition, the government sector should play a role in educating farmers, with adjustment by agencies involved in various agricultural promotion, both central and regional Government agencies should provide financial assistance such as low-interest loans, to support the adjustment of the production plan for farmers (Thammaphanichwong, 2015).

The development of farmers' performance is very important, which the Department of Agricultural Extension is the relevant agency, in the Ministry of Agriculture and Cooperatives that is responsible for promoting agriculture, improving farmers to have a better quality of life and it is an important unit to drive the Smart Farmers development project. However, it was found that Department of Agricultural Extension, should prepare training courses, in order to develop the competency of the farmers, covering all 6 items according to the conditions of Ministry of Agriculture and Cooperatives which are important tools for agricultural extension scholars, for technology transfer and applying innovation to farmers. Farmers must develop knowledge, thinking processes and improve competency, increase agricultural skills, to become smart farmers, according to the conditions of the Ministry of Agriculture and Cooperatives. (Farmers Development Division Department of Agricultural Extension, 2018; Agricultural Economic Monitoring and Forecast Center, 2017; Project and Budget Group, Planning Division, Department of Agricultural Extension, 2018).

Therefore, the researcher was interested in studying basic information and competencies of farmers, by bringing the results of research into important information, in the development of a training program for farmers, to be suitable for agricultural extension work and able to develop the performance of general farmers to be a smart farmer.

## **OBJECTIVE**

The purpose of this research was to study the general basic information of farmers and analyze the performance of Smart Farmers about the characteristics of the farmers. There are 6 basic criteria that the Ministry of Agriculture and Cooperatives prescribes, to provide basic information for finding ways to develop a training program for Smart farmers to be active for agricultural extension work

## **LITERATURE REVIEW**

### **Curriculum Development**

The course refers to a project plan for a specific group of people, with objectives, content, methods of teaching and evaluation, in order to complete the goals set by the institution.

The atmosphere for the students to be studied together with clear duration and content (Saylor & Alexander, 1974) which is in line with the concept of Taba as it was stated in the Curriculum Development book, "The curriculum is a learning plan. It consists of Purpose and purpose especially the selection and arrangement of content Methods of teaching and learning and evaluation" (Taba, 1962). Creating or developing courses based on the concept of Saylor and Alexander The details are as follows: (1) Goals, Objectives, and Domain, the curriculum designers should set their goals and objectives first, (2) Curriculum Design, (3) Curriculum Implementation is the process of applying the curriculum the teacher must select teaching methods and teaching materials that will help students to learn as specified, and (4) Curriculum Evaluation will be the final step of this format which can tell that does the program meet its goals or objectives. The curriculum evaluation should focus on assessing the curriculum. The quality of teaching and learning behaviors of the students (Khruasanati, 2004)

### **Smart Farmer**

Smart Farmer development has an important concept which is to develop the farmers to have knowledge in various fields such as marketing, production technology. Knowledge of cost accounting as well as the channels to access relevant information, therefore, it is necessary to have an effective mechanism to help farmers develop effective access to various knowledge (Sakorn Srimuk, 2015). The development for **"Thai Farmer to be Smart Farmer."** which **"Smart Farmer"** is the farmer that 1) **has knowledge in the matter** 2) **has information to make decisions** 3) **has product management** 4) **is aware of Product quality and Consumer safety** 5) **Environmentally / socially responsible and** 6) **Pride of being a farmer** According to the Department of Agricultural Extension's Policies for Agriculture, **Smart Farmer** is the person who is proud of being a farmer, knowledgeable in each field of agricultural production. Have the ability to analyze Connection and management Manage production and marketing By using the information to make decisions Taking into account the quality and safety of consumers, society and the environment (The Committee to impel the Smart Farmers project and Smart Office, Ministry of Agriculture and Cooperatives, 2013).

### **Agricultural Extension Work**

The agricultural extension work is a service providing knowledge, experience and agricultural skills to farmers since the beginning of their careers as well as the life of a career (Singkhavanich, 2010) The agricultural education management (agricultural education) is an education for students that have developed in agriculture, production, processing and distribution when the learner already has the mentioned knowledge. The knowledge can be used in 2 ways, which may be used for direct occupation in agriculture or to pursue a career in agricultural relay May be broadcast in schools, is also an agricultural teacher or if broadcasting outside of the school, it will be in the form of agricultural extension officer (Hiranratsamee, 2010). The importance of psychology to farmers is that is the one of the important characteristics of agricultural promotion is the transfer of knowledge to farmers. Promoters need to have knowledge and understanding of the characteristics of adults, both physically, mentally, emotionally, and socially, especially the important principles of the current promotion. Promoters may either be direct educators to farmers or may be just a guide by providing an environment for farmers to learn with their own experience of working with that farmer. Agricultural extension officials who work in the farmers' community and spend most of their time with farmers in that community It may be regarded as

the person who works closely with the farmers, with the main objective of development between farmers and their communities. Therefore, the promotion staff must understand the basic principles of human behavior in rural society and must look at the farmers from the environment of society that influences the farmers who are residents in detail. This is because people may behave differently as a result of learning different beliefs, values, cultures and traditions. Even though they have similar mental needs (Khemthong, 2011).

### **Competencies**

The article of David C. McClelland names Testing for Competence Rather than for Intelligence published in 1973 It has been widely discussed and is the starting point of developing Competency as an alternative to the measurement of intelligence and its continued use to this day. Performance concepts are often explained by the Iceberg Model, which explains that The difference between people is comparable to an iceberg, with the one that can be easily seen and developed is the part that floats above the water. That is the knowledge and skills that people have, and most of them are hard to see beneath the surface, including motivation, character, internal image, and the role played by society. This underwater part has a great impact on people's behavior and is a difficult part to develop (Sirimai, 2018 & Akaraborn, 2018)

Competency is the personality that is nested within the individual. Which can push that individual Create good performance or according to the specified criteria in their responsibility. The competency consists of 5 parts as follows: (1) Skill: (a) What people do well and practice on a regular basis until it becomes proficient?, (2): Knowledge: (b) Specific knowledge of individuals, (3) Self-concept: (c) Attitude, values and opinions about one's , image or things that a person believe that they are, (4) Individual characteristics (Trait): the individual characteristics of a person: (d) Is something that describes that person?, and (5) Motive: Internal motivation or drive: (e) Which causes a person to show behavior towards their target? (Akaraborn, 2018).

### **HYPOTHESIS**

Basic general information, social and economic conditions of farmers in the area It does not affect the relationship of the competency level of being a brilliant farmer according to the 6 qualifications specified by the Ministry of Agriculture and Cooperatives.

### **METHODOLOGY**

#### **Population and Sample**

The samples used in this research were farmers in Phrae province, Thailand the total of 71,150 samples (Laddawan Pornwankan, 2018; Ministry of Agriculture and Cooperatives, 2018).

The sample groupss in the performance analysis for curriculum improvement was a general farmer in Phrae province, Thailand that had never joined a distinguished farmer yet or had previously joined the Smart Farmer Development Project of the Department of Agricultural Extension but not yet passed the requirement as a Smart Farmer of 400 people. The representative sample of quantitative research that the researcher calculated by the method of Taro Yamane (Yamane Taro, 1973) or at the significance level of 0.05.

Nonprobability sampling Accidental sampling for the desired number of sample groups without criteria. The sample groups can be anyone who can provide information. In which the researcher selected randomly according to the population proportion of the district, as detailed in the following table.

**Table 1.**

*Proportion of Sample Group in Each District.*

District	Amount	
	The farmer (people)	The representative samples (people)
Mueang Phrae	15,118	85
Rong Kwang	8,618	48
Long	10,262	58
Soong Men	9,571	54
Den Chai	4,020	23
Song	10,401	58
Wang Chin	10,046	56
Nong Muang Khai	3,114	18
Total	71,150	400

**Source:** Department of Agricultural Extension (2018: Online).

### **Instruments and Testing Instruments**

The tools used in this research are 1) questionnaire and 2) multiple choice knowledge test as per the follow details;

1. Questionnaire of the respondent's status Inquire about (1) Gender, (2) Age, (3) Educational qualification, (4) Number of household members, (5) Agricultural areas, (6) Household income from both agriculture and outside the agricultural sector, (7) Household expenditure, (8) farmers activities that generate income into the household, (9) farmers occupation Types, and (10) Participation of Department of Agricultural Extension Ministry of Agriculture and Cooperatives Training program.
2. Multiple choice test, a total of 30 tests, covering 6 basic qualifications that the Ministry of Agriculture and Cooperatives set.

### **Research Variables**

1. Independent variable are (1) Gender, (2) age, (3) educational qualification, (4) number of household members, (5) agricultural area, (6) household income from both agriculture and outside the agricultural sector, (7) household expenditure, (8) farmers activities that generate income into the household, (9) farmers occupation Type, and (10) Participation of Department of Agricultural Extension Ministry of Agriculture and Cooperatives Training program.
2. Controlled variable is the performance of farmers

## Quality Test of the Multiple Choice Knowledge Test

The researcher has taken the following steps.

Five experts were asked to check content validity, 41 test items for The analysis of Item Objective Congruence Index = (IOC) by selecting only questions with IOC value = 0.50 or higher. After the quality inspection found that "Questions must have income from the farming of households not less than the cost in baht / household / year" is not consistent. The researcher therefore removed this clause which the experts argue that at present, there is a change in the qualifications of income from agriculture to be suitable for farmers in different areas. Income properties are a good thing to know, but there is no need to ask. Making the remaining 40 questions and then revising the test according to expert advice, before testing with farmers in the area to find Item Difficulty.

40 items were used to test item difficulty with 30 samples in the area. There is a difficulty value between 0.3 - 0.7, remaining 30 questions and the difficulty value (P) is equal to 0.59.

## Data Analysis

1. Using descriptive statistics to analyze general data of respondents, including percentage (highest), highest score (Max), lowest score (standard deviation) and average (Mean) with the ready-made statistical program.
2. Using Inferential statistics by using Chi-Square statistics to test the relationship of various factors affecting the performance of farmers.
3. Finding Item Difficulty

In general, instead of difficulty, p and p can be calculated from the formula.

$$p = \frac{H + L}{n_H + n_L}$$

Once p represent the difficulty of the exam

H represent the number of students in the high group who answered correctly.

L represent the number of students in the low group who answered correctly

$n_H$  represent the total number of learners in the high group

$n_L$  represent the total number of learners in the low group

If p is less, it means that the exam is difficult. For example, p = 0 indicates that the exam is not correct. All learners are doing the exam correctly. If p = .50 shows that the students in that group are half correct and half incorrect (Kesasa & Team, 1989).

4. Grading based on criteria for farmers' performance levels, using criteria-based grading based on criteria. Any farmer who scores the criteria will receive a grade accord-

ing to that criteria. For example, a farmer can take 26 points or more to get Grade A. The excellent assessment results and get 25 scores of the Tests, or lower, will receive lower than Grade A or lower results than excellent. Whether the exam is difficult or easy, grading will meet the criteria, no flexibility according to the level of ability of the group (Unhasoot, 2018).

## **THE RESULT OF THE STUDY**

### **General basic Information of Farmers**

From the study, it was found that most farmers in Phrae province were female (54.75%). Farmers aged between 46 - 60 years (56.50 %), a primary education level (67.50 %), the average number of members in the household are 4 people / household, with an average agricultural area of 8 rai, the income from the agricultural sector averaged 92,528.90 baht per year. Non-agricultural income averaged 31,595.40 Baht per year, including income in both agricultural and non-agricultural sectors, an average of 123,413.40 Baht, including household expenditure 121,026.90 Baht, agricultural activities that generate income into the household. In the production of plants, including Rice (83.50 %), field crops (56.50 %) and vegetable crops (23.25 %). Livestock production includes poultry (32.75 %), cattle / buffalo (7.75 %) and pigs (6.50 %). Fisheries production, including fish species (26.75%), frogs (3.75%) and shrimp (1.00%) in economic insect production, including crickets (15.00%) and bees (9.00%) (10.00%) and bio-fermentation (7.75%). In the processing of agricultural products (3.50 %) and other areas such as agricultural speakers and the use of agricultural tractors (1.50 %) respectively, which the farmers used to participate in the project with as much as 13 projects. Most of the farmers used to participate in the 9101 projects by following their father's footsteps. Under the royal umbrella for agricultural career restoration for flood-affected farmers (51.50 %), followed by the New Theory Agricultural Extension Project and sustainable agriculture (39.75 %). Efficiency enhancement and adjustment program for maize production (37.00 %). Project to stop burning in agricultural areas (29.00 %). Large agricultural extension projects (23.50 %). Promote and develop an agricultural career (21.00%) and other projects, respectively, according to Table 2.

**Table 2.**

*General Basic Information on Social and Economic Conditions of 400 Farmers in the Area.*  
n = 400

General basic information social and Economic conditions	Group of the representative sample			
	Amount (people)	Percentage		
Gender				
Male	181	45.25		
Female	219	54.75		
Age (Years old)				
Lower than 20 years old	1	0.25		
20 - 45 Years old	62	15.50		
46 - 60 Years old	226	56.50		
Over than 60 years old	111	27.75		
Education level				
Never study	3	0.75		
Primary School	270	67.50		
Secondary School	49	12.25		
High school	40	10.00		
Vocational Certificate / high vocational certificate/Diploma	30	7.50		
Bachelor	8	2.00		
Amount of household members (people)				
Less than or equal to 2 people	48	12.00		
3 - 4 people	191	47.75		
5 - 6 people	137	34.25		
7 - 8 people	21	5.25		
More than 5 people	3	0.75		
	Min. = 1	Max. = 10	Mean = 4.14	S.D. = 1.53
Agricultural land (Rai)				
Less than or equal to 5 rai	159	39.75		
6 - 11 rai	147	36.75		
12 - 16 rai	69	17.25		
17 - 21 rai	17	4.25		
More than 21 rai	8	2.00		
	Min. = 400 square meters	Max. = 30 rai	Mean = 8.18 rai	S.D. = 5.46

## 2. (continued)

General basic information social and Economic conditions	Group of the representative sample	
	Amount (people)	Percentage
n = 400		
Household income per year		
Income from agriculture (baht/year)		
Less than or equal to 65,000 baht	161	40.25
65,501 - 130,000 baht	149	37.25
130,001 - 195,000 baht	56	14.00
195,001 - 260,000 baht	27	6.75
More than 260,000 baht	7	1.75
Min. = 3,000 baht Max. = 330,000 baht Mean = 92,528.90 baht S.D. = 65,742.32 baht		
Non-agricultural income (baht/year)		
Less than or equal to 46,000 baht	331	82.75
46,001 - 92,000 baht	39	9.75
92,001 - 138,000 baht	24	6.00
138,001 - 184,000 baht	3	0.75
More than 184,000 baht	3	0.75
Min. = 0 baht Max. = 230,000 baht Mean = 31,595.40 baht S.D. = 34,054.82 baht		
Total income in both agriculture and non-agricultural sectors (baht/year)		
Less than or equal to 77,000 baht	104	26.00
77,001 - 154,000 baht	190	47.50
154,001 - 231,000 baht	67	16.75
231,001 - 308,000 baht	29	7.25
More than 308,000 baht	10	2.50
Min. = 13,500 baht Max. = 400,000 baht Mean = 123,413.40 baht S.D. = 72,500.02 baht		
Household expenditure (baht/year)		
Less than or equal to 84,000 baht	105	26.25
84,001 - 168,000 baht	238	59.50
168,001 - 252,000 baht	47	11.75
252,001 - 336,000 baht	3	0.75
More than 336,000 baht	7	1.75
Min. = 13,000 baht Max. = 420,000 baht Mean = 121,026.90 baht S.D. = 63,995.09 baht		
The origin of being a farmers		
By inheriting the agricultural occupation from their ancestors	328	82.00
By making a career Or hobby	31	7.75
By making a new career by himself (Parents are not farmers)	41	10.25
Participation in farmers' projects		
Less than or equal to 1 project	61	15.25
2 - 4 projects	245	61.25
5 - 7 projects	77	19.25
8 - 10 projects	8	2.00
More than 10 projects	9	2.25
Participation in the farmers' project Min. = 0 Project Max. = 13 Projects Mean = 3.45 Projects		

### **The Analysis of Farmers' Performance**

From the performance analysis of farmers, it was found that, the number of farmers that responded correctly to the top 5, ranked # 1, was No. 25, farmers who had a code of ethics for farmers. Which of the following should be considered (70.50%), followed by Article 27, from which options mean examples of behavior based on basic qualifications, which are proud of being a farmer (67.75%). Article 5, which is not a professional speaker (55.75%), Article 19, which describes the standard of production of fruits and vegetables correctly and Article 22 from whichever option means the indicator based on basic qualifications, responsible for the environment and society with the same score (55.00%) and the top 5 farmers who score the least, which is Article 14 from which option is not an indicator or examples of behavior based on basic properties, an awareness of product quality and consumer safety and Article 18, which describes the term GM GMP (Good Manufacturing Practice) is incorrect (28.00 percent). Article 20, which describes the standard abbreviation, is incorrect. And Article 7 from which option shows the symbol image. The digital farmers registration application of the Department of Agricultural Extension is correct, with the same score (20.50 %). Article 15, which shows the correct symbolic image of Thai organic standards (13.75%) and Article 23 from which any option is the law on production factors (13.50 %) respectively.

**Table 3.**

*The Analysis of the Performance of Farmers by Item. (30 items)*

		n = 400
No.	Test	Percent of correct answer
1	Which does not refer to the general qualities of the farmers to be a smart farmers	34.25
2	Whichever is not a qualification of smart farmers model	38.75
3	Which is the new qualification of young farmers	37.75
4	Which is not the main branch of the master farmers model	43.50
5	Whichever is not the nature of being a professional speaker	55.75
6	Whichever is not an indicator or example of the behavior of the qualification that contains the decision	51.75
7	From the option which represents the symbol image of the digital farmers' registration application of Department of Agricultural Extension.	20.50
8	Which is able to give examples of situations with the most appropriate information for decision making	29.25
9	From which option does not mean the indicator of features, product and marketing management	48.50
10	Which of the following options is not an example of behavior, product and marketing management	36.75
11	Which is the meaning of IFPP or Individual Farm Production Plan	28.75
12	Whichever is mentioned, IFPP, IFPP or Individual Farm Production Plan are correct.	41.50
13	Whichever is not a business goal According to the principle of IFPP	41.75
14	From which option is not an indicator or behavioral sample based on basic qualities that are aware of product quality and consumer safety	28.00
15	which shows the symbolic image of Thai organic standards	13.75
16	Which is not the basic principle of organic production in Thailand	45.75
17	How to grow plants by using GAP (Good Agricultural Practices) system	41.25
18	Which terms describe GMP (Good Manufacturing Practice) is not correct	28.00
19	Which describes the standard of production of fruits and vegetables correctly	55.50
20	Which of the following are the standard abbreviations	22.50
21	What should the farmers who have responsibility for the environment and society should not look like	46.75
22	From what options mean the indicators based on basic qualities that are responsible for the environment and society	55.00
23	From which option is the law on production factors	13.50
24	You can search for agricultural legal information technology from any choice.	44.75

**Table 3.** (continued)

No.	Test	Percent of correct answer
25	What farmers should have a code of ethics in their occupation	70.50
26	From which options can explain the indicators based on basic features, be proud of being the best farmers	41.75
27	Which of the following options is an example of behavior based on basic qualifications, being proud of being a farmers	67.75
28	Which of the following incorrectly states the philosophy of sufficiency economy	39.75
29	Which one can explain the important characteristics of sufficiency economy philosophy the most correctly	42.50
30	Which is an example of a sufficiency economy philosophy that can be used correctly	32.50
farmers' performance (30 points) Min. = 4 points, Max. = 23 points, Mean = 11.98 points		

When evaluating criteria for grade-based cutting, it was found that no farmers could score between 26 and 30 points (excellent or grade A) which most farmers score at 0 - 10 points (most fall or grade F) (48.25 %) and followed by a range of 11-15 points (very weak or grade D) (26.75 %). The range of 16-20 points (fair or grade C) (20.00 %) and 21- 25 points (good or grade B) (5.00 %) respectively. The farmers scored the highest score of 23 points and the lowest score of 4 points, with an average score of 11.98 points from the full 30 points.

**Table 4.**

*The Analysis of the Performance Level of 400 Sample Farmers Using Criteria-Based Cutting.*

n = 400

The performance of the farmers according to the criteria-grade cut.			Group of representative sample	
Grade	Evaluation result	Score range	Amount of people who attend the Test (People)	Percentage
A	Excellent	26 – 30	0	0.00
B	good	21 – 25	20	5.00
C	Fair	16 – 20	80	20.00
D	Very low	11 – 15	107	26.75
F	Fail	0 – 10	193	48.25

farmers' performance (30 points) Min. = 4 points, Max. = 23 points, Mean score = 11.98 points

### **The analysis of Relationship Factors on Farmers' Performance Levels**

The results of the study of personal basic relationship data, on farmers' performance levels in Phrae province, whether there is a relationship or not, can summarize the results of the analysis as follows: Personal factors are not related to the competency level of the farmers, either (1) Gender, (2) Age, (3) Educational qualification, (4) Number of household members, (5) Agricultural areas, (6) Household income from both agriculture and outside the agricultural sector, (7) Household expenditure, (8) farmers activities that generate income into the household, (9) farmers occupation Types, and 10). Participation of Department of Agricultural Extension Ministry of Agriculture and Cooperatives Training program, according to Table 5.

**Table 5.**

*Relation Rates of Basic Data on Individual Farmers' Performance Levels.*

No.	Basic agricultural information	Agricultural performance			
		Chi-Square ( $X^2$ )	df.	Sig.	Correlation coefficient
1	Gender	0.719	3.00	0.869	Not relevant
2	Age	3.739	9.00	0.928	Not relevant
3	Educational background	21.610	15.00	0.118	Not relevant
4	Household members	12.332	12.00	0.419	Not relevant
5	Agricultural area	9.719	12.00	0.641	Not relevant
6	Total household income	18.096	12.00	0.113	Not relevant
7	Agricultural income	6.885	12.00	0.865	Not relevant
8	Non-agricultural income	12.026	12.00	0.444	Not relevant
9	Household expenditure	20.713	12.00	0.055	Not relevant
10	The origin of being a farmers	11.213	6.00	0.082	Not relevant
11	Participation in the project	13.468	12.00	0.336	Not relevant

\*At the statistical significance level of 0.05

From the table found that Individual basic information does not affect the relationship with Smart Farmers. This is because the competency test of smart farmers is a test that measures knowledge and specific understanding with the contents, covering the characteristics of 6 basic Smart Farmers that the Ministry of Agriculture and Cooperatives. Which farmers may have knowledge and understanding of the test, or without knowledge and understanding of the subject being tested. Therefore, whether (1) Gender, (2) age, (3) educational qualification, (4) amount of household members, (5) agricultural area, (6) household income from both agricultural and non-agricultural sectors, (7) household expenditure, (8) The origin of being a farmers, and (9) participating in various programs of Department of Agricultural Extension. Does not affect the development of general farmers' ability to be smart farmers.

From the table found that Basic personal information did not affect the relationship with competing farmers. This is because the Competency Test of the filmmaking farmer is a test that measures knowledge and understanding in a specific area, covering the qualifications of the six basic filigree farmers specified by the Ministry of Agriculture and Cooperatives. The farmers may have knowledge and understanding of the subject tested or do not have the knowledge and understanding of the subject tested.

### **SUMMARY OF STUDY, DISCUSSION, RESULTS AND SUGGESTIONS**

From the study, it was found that the general farmers in Phrae province were between 46-60 years old, which was most consistent with Department of Agricultural Extension. It was found that the agricultural population of Thailand, that the total number of farmers is approximately 12,401,600, which is farmers aged 46-60 years, number 5,754,400 (5.7544 percent) (Ministry of Agriculture and Cooperatives, 2018). Most of the farmers are female. The education level is in elementary education, the number of household members is 4 people per household and they inherited the agricultural occupation from their ancestors. Which is consistent with the study of basic information on agricultural resource management, according to the sufficiency economy philosophy of the farmers in Lampang province, which indicates that most farmers are female (57.87 %), primary education Study (59.26%), number of household members, 4 people per household. Are farmers who inherited a career from an ancestor (75.46%) (Kanlayanee Prasertkhorawong, 2014). Crop production activities that can generate income into most households, mostly from rice (83.50 %), followed by field crops (56.50 percent). Most livestock production comes from poultry farming. Such as chickens in various species (32.75 %) and fishery production, mainly from various types of fish (26.75 %) respectively, with the average of 3.45 projects participating in the project of 13 projects. Most of the farmers used to participate in Project 9101, following the instruction under His Graciousness of King Bhumibol under the umbrella of the Royal Highness for Agricultural Rehabilitation, for farmers suffering from flooding (51.50 %), followed by the new theory Agricultural Extension Project and Sustainable Agriculture (39.75%). Also, the project to increase efficiency and adjust the production system of maize (37.00 %), the project to stop burning in agricultural areas (29.00 %), large-scale agricultural extension projects (23.50 %), promotion and career development agriculture (21.00 %) and other projects respectively.

The analysis of the performance of farmers separately from the 30 items of the test, it can be concluded that the top 5 most correct answers from the farmers, are ranked # 1, item 25, farmers who have a code of ethics for farmers, which of the following should be considered (70.50%). Followed by Article 27, from which options mean examples of behavior

based on basic qualifications, that are proud of being a farmers (67.75%), being a professional speaker (55.75 %). Article 19, which discusses the standards of fruit and vegetable production correctly and Article 22. From that options it means the indicators based on basic qualities, are responsible for the environment and society, with the same score (55.00 percent) and the top 5 farmers who scored the least, the number 14 from whichever option, is not an indicator or behavioral sample based on basic qualifications, but is aware of product quality and the safety of the person and Article 18, which describes GMP (Good Manufacturing Practice) incorrectly (28.00 %). Article 20, which does not mention the standard abbreviation of various standards and Article 7, from which option shows the symbol image, The digital farmers registration application of the Department of Agricultural Extension is correct. With the same score (20.50 %). Article 15, which shows the correct symbolic image of Thai organic standards (13.75 %) and Article 23, from which any option, is the law on production factors (13.50 %) respectively which, from the total score of 30 points, the farmers scored the most points, 23 points and the lowest score of 4 points, the average score of 11.98 points. It was found that no farmers can score between 26 - 30 points (excellent or grade A) but most farmers score the most in the range of 0 - 10 points (fail or grade F) at the most (48.25 %). It means that most farmers are not yet Smart Farmers, followed by a range of 11-15 points (very weak or grade D) (26.75 %), 16-20 points (fair or Grade C) (20.00 %) and 21- 25 points (good or grade B) (5.00 %) respectively.

Therefore, in order to increase competency to be a smart farmers, it is necessary to add knowledge and understanding to farmers, to realize product quality and consumer safety, which are related to various standards, especially the standard of good practice for the production process and good practices for GMP (Good Manufacturing Practice) pruning and basic Thai organic standards. Including the use of information technology and various applications, especially The digital farmers registration application of the Department of Agricultural Extension (Farm Book) because at present Department of Agricultural Extension has adopted this technology, as an important tool to improve farmers Registration Information. In addition, knowledge and understanding of various laws should be added to allow farmers to apply them to suit themselves.

The results of the study of personal basic relationship to the level of competency of farmers in Phrae province, whether or not they are related, can summarize the results of the analysis, that personal factors do not relate to the competency level of the farmers, whether they are 1) gender 2) age 3) educational qualification 4) amount of household members 5) agricultural area 6) income of households, both from agriculture and non-agricultural sectors, and 7) household expenditures 8) sources of farmers and 9) participation in farmers' projects. Therefore, from the analysis of the performance of farmers, able to apply the theory of the iceberg model of David C. McClelland, a psychologist at Harvard University, to apply to develop the performance of farmers. This explains that the competent person is composed of 5 main elements: (1) skills, (2) knowledge, (3) self-concept, (4) trait, and (5) motive. The difference between people can be compared to the iceberg divided into 2 parts: (1) the part that is the most easily visible part or the part that is above water, such as skill and knowledge, and (2) The part that is underwater or difficult to see, such as social image, self-concept, trait and motive (Sirimai, 2018) that also includes the ability to apply the theory of Carl Rogers to use, which Carl Rogers said, "Although stimulation or motivation will come from outside, but the feeling that he had found reach to touch and understand that experience, which also includes the ability to apply the theory of Carl Rogers to use, which Carl Rogers said, "Although stimulation Or motivation will come

from outside, but the feeling that he had found, reaching, touching and understanding that experience, occurred within the learner" "Even when the impetus or stimulus comes from the outside, within." (Noppakhun, 1985). It can conclude that competent farmers must go to learn that experience by themselves, even though the source of most farmers experience (82.00%) comes from their ancestors.

Therefore, in order to give farmers the opportunity to develop their competency to become better farmers. It is the duty of Department of Agricultural Extension, to organize training courses for farmers, so they have the opportunity to learn and practice in order to create experience, that can be applied to all farmers and a training program for smart farmers that should cover all 6 basic farmers' qualifications that Ministry of Agriculture and Cooperatives has set in accordance with the theory of Tamnong Singkhavanich; the first Director-General of the Department of Agricultural Extension explained that, "Agricultural Extension Work is the management of agricultural knowledge, including knowledge in agriculture and agro-industry industries, etc. which can enhance or increase knowledge for agricultural entrepreneurs or farmers and interested people which is the target person, both in terms of subjects and practices, in order to increase learning, understanding and applying to increase production efficiency, which can result in better development of production. The management in both economic and social aspects, that will enable entrepreneurs to earn a higher income and have a better standard of living. Therefore, in summary, it can be said that "Agricultural extension work is a service, knowledge, experience and agricultural skills for farmers, from the beginning of their career, as well as the life of the occupation and by the type of knowledge that must be used to help solve problems, which helps in the development of good practices, with many branches beyond the capacity that the entrepreneur will learn at all, or follow the progress of the relevant science." (Singkalavanich, 2010).

For guidelines for developing a training program for smart farmers to be active for agricultural extension work, the development of human resources with the use of many sciences together. From the results of the performance analysis, it was found that there should be an increase in knowledge and understanding of the basic features of all 6 farmers. The use of applications and information technology. According to qualification No. 2 Development of knowledge and understanding in product management throughout the supply chain and making individual and group production plans (IFPP). According to qualification item 3, awareness of product quality and consumer safety.

If the training course is developed, by applying the results of the competency analysis of the farmers, it should be used as a guideline for the development of the training program for smart farmers. For agricultural extension work, to be able to develop training courses farmers, any course should be polite and suitable to their educational standard, it will be an important tool for future agricultural extension work and will benefit the farmers sector in Thailand, by being able to develop general farmers, who have not yet participated in the project. A total of 11,153,756 cases (89.9380 %) (Farmers Development Division Department of Agricultural Extension, 2018) to have knowledge, ability or develop potential to be a Smart Farmers.

Therefore, research on farmers' performance analysis is necessary, to prepare for becoming a Smart Farmer. In addition to being a research project for human resource development in the agricultural sector, it is also important information for determining the policies

and plans of the Department of Agriculture, Ministry of Agriculture and Cooperatives in the next fiscal year.

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**ELDERLIES' HUMAN CAPITAL NEEDS ON  
HOTEL BUSINESS EMPLOYMENT IN BANGKOK**

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**ABSTRACT**

The numbers of global elderlies in developed countries have nowadays increased substantially; otherwise, the numbers of Thai elderlies leading to no labor forces in governmental organizations and non-governmental organizations, as well as labor market impacts have risen dramatically in Bangkok. As a qualitative study, the purpose of this study was to investigate the elderlies' human capital needs on their working in four branches of the Centara Grand Hotel Group in Bangkok, according to the framework of human resources management 4.0. Structured in-depth interviews were all conducted with five hotel executive boards and chiefs of different departments selected by a purposive sampling technique. It revealed that the elderlies' working experiences were mostly required for the hotel's employment; moreover, their English and Chinese language skills, as well as their technological skills were mostly supported for their work in hotels. In order to upgrade the elderlies' competencies on their working performances, however, a practical guidebook on elderlies' effective hotel management should be also created.

**KEY WORDS:** Human capital, elderlies, hotel, human resource management

## **INTRODUCTION**

Changing demographics of an aging population has resulted from social impacts. According to the report from the United Nations (UN), the global life expectancy at birth is expected to increase significantly between 2001 and 2100. This is probably because of an increase in longevity and fertility decline. Consequently, those aged 65 or over reaches 2000 million, accounting for one-fifth of the global population (20 per cent). The greatest increases have been seen in developing countries. In Thailand, it is predicted that the number of senior citizens with their age of 65 or over will be projected to be the second highest percentage among South East Asian countries by 2050 (Kanchana Kaewthep, Nantaka Suthamprasert, & Sermthong Ekthida, 2011).

In response to these changes, the hotel business in Bangkok, with its eye on market equilibrium for the workforce, establishes a policy to recruit retirees or senior citizens who will return to work as they might apply their valuable experiences to the workplace (Chen, J. E. A., 2010).

The researcher is interested in studying the elemental information, concepts, attitudes which may influence senior citizens needed as human capital workforce in the hotel business under the framework of human resource management 4.0. The result from this study could be a useful tool in launching its business effectively and to prepare for possible manpower shortages beforehand. Moreover, it could encourage the hotel business to take effective steps in competitive and sustainable advantages (Khammai Preecha, Jesadalak Viroj, & Konglai Chirawan, 2017).

Thus, concepts and attitudes on senior citizen's human capital influencing human resource practices in the Centara Grand Hotel group in Bangkok, Thailand should be investigated based on the framework of human resource management 4.0.

## **RESEARCH METHODOLOGY**

Based on the qualitative research, four subgroups of the Centara Grand Hotel group in Bangkok were selected.

### **Research Population**

Five employees working for 1) Centara Grand & Bangkok Convention Center at Central World, 2) Centara Grand at Central Plaza Ladprao Bangkok, 3) Centara Watergate Pavilion Hotel Bangkok, and 4) Centra by Centara Government Complex Hotel & Convention Center Chaeng Wathana were carried out for data collection.

### **Research Instrument**

A structured in-depth interview was applied as the research instrument, and assembled comprehensive information as follows: 1) skills and experiences, 2) determination, 3) work ability, 4) visual personality at work, 5) human relations, 6) work behavior, and 7) remuneration (Hall, Richard H. 1991). Relevant documents were all reviewed and synthesized, relating to HR practices in the senior citizens' capitals sought by the hotel business. The content accuracy was approved by educational experts. Data integration and analysis used

for content analysis, systematical synthesis, and descriptive analysis were all underpinned for interpreting their opinions, concepts, attitudes toward the senior citizens' capital needs in the Centara Grand Hotel Group, Bangkok under the framework of human resource management 4.0.

## **RESULTS AND CRITICISM**

The results obtained from this study were detailed as follows:

### **Competency**

In order to function fully in the Centara Grand hotel group, senior employees required specific skills, especially for their computer skills, language proficiency, and hotel management skills. Four important areas included 1) Skills, 2) Capability, 3) Experience, and 4) Educational qualifications, which may help an elderly workforce to perform their duties successfully. Thus, such a skill and experience proved essentially and the elderly employees are recommended to have them. (The interviewer number 1 and 3). The Centara Grand hotel group emphasized on the outcome of the results, so senior workers should apply their self-development skills in order to achieve the outcome required by the Centara Grand hotel group (The interviewer number 2 and 5). It was also suggested that the elderly candidates should be signed up for a job contract and pre-work and post-work employment assessment; for example, computer skills and language proficiency (e.g. English and Chinese) should be done during the period of work they have performed or during probation. The suitable position for individuals would be chosen depending on these assessments. (The interviewer number 4)

Also, it has concluded that the senior candidates' language skills including English and Chinese was still under a proficient level as guests mainly used English and Chinese. Furthermore, some elderly employees were unable to use computers and lacked basic computer skills, knowledge, hardware and software technology skills with various necessary programs such as document printing programs, schedule programs, job presentation programs, email communication and information searches, etc. Therefore, if the elderly were to be employed they must develop such skills as mentioned above to meet the hotel requirement (the interviewer number 1, 2, 3, 4 and 5).

### **Commitment**

Regarding the attitudes of professional work, most of the elderly employees showed a strong commitment, determination and patience, especially on working disciplines and performance, and the elderly people had better disciplinary practices and responsibility than other different age groups, resulting the better achievement of the hotel goals (The interviewee 2 and 3). The elderly employees showed their efficient accountability in various departments ranging from housekeepers to kitchen workers. Elderly employees would perform the assigned tasks with good intention and responsibility, while they regularly improved their work, aiming at their greater efficiency and effectiveness (The interviewer number 1 and 4).

Moreover, it was stated that the current employees working in the Centary Grand Hotel group have tried to develop their own accountability at the workplace. For example, 1) The elderly employees tried to adapt to the current situation, and 2) The elderly employ-

ees' services at the front desk. It was stated that the hotel group improved itself by encouraging employees to learn English better. (The interviewer number 1, 3 and 5). Also, the hotel group stated that the senior employees had their high ability to analyze their work goals, as well as the ability to solve problems. Moreover, the hotel claimed that the senior citizens were very determined and were able to deal with their problems professionally (The interviewer number 2 and 4).

### **Capability**

The senior citizen in several departments, for example, housekeeper, heads of Front Office department, and Laundry department, etc. are able to work with the hotel's instructions and policies, and performed their duties competently. It also showed that the older employees had the ability to solve problems while performing their duties on the spot which was one of the important criteria for hiring older people. On the other hand, their ability to apply technological skills should be of concern (The interviewer no. 4). According to the Centara Grand Hotel group, the senior employees seemed to struggle with either how to surf the internet or gain basic knowledge of software packages. They also required a language commitment effort since hotel guests were main foreigners. In fact, they needed to attend seminars to improve their language proficiency in both English and Chinese. This should be provided by the Centara Grand Hotel group during the period of probation in order to gain more knowledge in other languages. (The interviewer number 1 2 3 4 and 5).

Furthermore, elderly employees should practice their ability in different departments such as housekeeping, laundry, kitchen and administration to gain more experiences and be able to manage and plan their own work to meet the hotel service requirement (The interviewer number 1 3 and 4). Additionally, another benefit of hiring older employees was that they were more capable of working in the housekeeping and kitchen departments as compared to the other age groups. However, they could perform well and matched the skills of younger age groups. The elderly workers could fill in for younger workers in departments where there was a need for more staff. The Centra Grand Hotel group, therefore, recognized the importance of getting elderly people to work, as well as ensuring that older people were important workers for the hotel and were able to improve their accountability (The interviewer number 2 and 5).

### **Character**

The Human Resources Department should screen the older workers' personal images, which was very important to support the hotel operation. For example 1) Dressing: they should be neat and clean, 2) Walking: they should walk comfortably, 3) Communication skill: they should speak, communicate, read and write well, and 4) The characteristics of their appearance: their front teeth should not be too deformed or had a facial deformity. The back should not be so bent as to obscure their appearance. (The interviewer number 2 and 4). Thus, the Centara Grand Hotel group explained that they needed to screen these physical aspects because it was very important for the hotel staff's working performances, especially for the position of receptionist. The older employees with their group of different age needed to be polite to work with their determination, responsibility, encouragement, as well as to be able to cooperate in their team work, which could bring the hotel to a sustainable business success (The interviewer number 1 2 3 4 and 5).

## **Compatibility**

From the study, it was found that the hotels in the Centara Grand Group believed that the elderly people should work with their respect to colleagues especially with younger supervisors (The interviewer 1 2 and 4). The hotel found that the elderly employees were important for creating a good relationship with colleagues, together with their honor and respect with the head of the hotel department, and colleagues at the same level including the hotel management board to avoid inappropriate behavior or to reduce the gap between ages. They should realize that those people were leaders in their working operation even though their age was younger (The interviewer number 1, 3 and 5).

## **Culture**

Elderly employees were able to work together as a team very well. The Centara Grand Hotel group commented that senior workers could transfer their knowledge and experiences to colleagues in order to get benefits for the organization. Besides, the elderly staff should also be very kind to their colleagues and be able to adapt to colleagues well, though they were in different group of age (The interviewer number 1, 3 and 4). According to the hotel's additional attitudes, it was stated that the elderly employees were the group of workers with their generosity, and had a high responsibility to help their colleagues. It was observed that the employees in the elderly group, regardless of department or position, had respectable personalities and were calm in the face of unpredictable events. (The interviewer number 2, 3 and 5). They had the ability to transfer knowledge and experience, which accumulated to their colleagues. Other than that, it was apparent that the elderly people who are interested in working in hotels should have a good working behavior such as respect and honor for their younger supervisors (The interviewer number 1 and 4).

## **Compensation**

The Centara Grand Hotel group's guidelines should be set up for hiring elderly people to enter into employment contracts, which were signed annually with their welfares were detailed as follows: 1) Salary, 2) One free meal, 3) Bonus, 4) Service charge, and 5) Employee welfare insurance (The interviewer number 1 2 3 4 and 5).

## **SUMMARY OF RESULTS AND SUGGESTIONS**

According to this study, it has been found that the hotels that were the part of the Centara Grand Hotel Group, which had many criteria, concepts and attitudes from the experience of getting elderly people to work with them, and maintained a reputation for respectability. They should exhibit calm and show their skills of leadership, and be able to transfer the useful knowledge and experiences that they have accumulated to their colleagues. So, at the same time they must also respect and honor younger supervisors. Most elderly employees had a strong commitment and patience, especially about work discipline and responsibility in performing duties. It was also found that elderly people had higher disciplines and responsibility than in other different employees in other groups of age, resulting in the achievement of the hotel goals. Moreover, The Human Resources Department should screen the external personality of senior workers which was very important in the hotel operation effectively. For example, The Human Resources Department should screen for external personality which was very important in the hotel operation. These included 1) Dressing, 2) Walking characteristics, 3) Communication skills, 4) Positive personality

characteristics. Elderly people should not only work with respect and with calmness, but they should also demonstrate their leadership skills, which could transfer knowledge and experience that they have accumulated to their colleagues, and they showed their respect and honor to younger supervisors. From the data, it was, however, found that the elderly employees did show their lack of language skills whether in English or Chinese, as well as their lack of technological knowledge.

The hotels that were part of the Centara Grand Hotel group had a desire to get the elderly people to work because they were respectful people and could bring their own experiences to develop organizations and worked with colleagues, as well as they respected and honored the younger supervisors. Furthermore, most elderly employees had a strong commitment and patience, especially their working disciplines and responsibility in performing their duties. They had their higher disciplines and responsibility than other employees. But the hotel must provide additional trainings in order to increase their knowledge and language skills in English and Chinese, and 2) Technology such as basic computer programs to enhance the hotel business and sustain efficiency. Currently, it was claimed that the hotels in the Centara Grand Hotel group hired around 175 elderly employees (Based on interviews with senior executives of the hotel Centara Grand in Bangkok). If the hotels showed the development performance as mentioned above, it would be the development of human capital in HR practices in accordance with the 4.0 policy of the government. An integral part of the government's 4.0 policy, where the elderly workers could also take part in the push for technological innovation. The Centara Grand Hotel group needed to adjust urgently to new requirements in the human resource management, including the staff's training on language proficiency skills, in particular English and Chinese. In addition, the development of human resources systems in the organization would also offer opportunities for the elderly workers' employment to work in the hotel business sector, as well as a way to resolve the shortage of workers and people with knowledge and ability in both governmental and private sectors.

Therefore, this research focused on the requirement for elderly human capital to work in the hotel business in Bangkok under the framework of Human Resource Management 4.0; it was a case study of the hotels that were part of Centara Grand Hotel group, and it also provided important information for determining the policies and plans of the hotels that subordinated to the Centara Grand Hotel group or as a guideline for further government policy formulation.

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**REGIONAL INNOVATION SYSTEM IN JAPAN**

by

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**ABSTRACT**

This study aims to assess the determinant factors for promoting regional innovation in Hyogo prefecture, Japan. Data were collected through mail survey among 219 SMEs (Small and Medium Sized Enterprises) located in the Hyogo prefecture area and an econometric model was performed to identify factors of innovation. The model explains how SMEs achieve innovation by collaborating with external linkages such as local firms, universities, and public research organizations and assimilating information obtained on technology and market with indigenous resources, such as technology and human resources. The results revealed that establishing the regional open innovation system consisting of all regional entities was essential to promote innovation and vitalize the regional economy. In sum, the paper provides recommendations for other regions in Japan and to the world to follow the open innovation system.

**KEY WORDS:** Open innovation, external linkages, innovation capability, regression analysis, regional development.

**INTRODUCTION**

The traditional Japanese-style innovation is based on a hierarchical production structure in which certain large firms and small and medium-sized enterprises (SMEs) are interrelated and observed in automobiles, small machinery and home appliance industries. These firms share innovation by using existing technology and human resources within the firms. However, in recent years customer demands become highly sophisticated and diversified, competition becomes high and the demand for research and development (R&D) is chang-

ing rapidly. Besides, introducing new products and services to the market is also difficult. The development period permitted for R&D tends to be shortened gradually, the resources that can be used are limited and the gap between “what to do” and “what can be done” is gradually increasing. In order to fill these gaps, a new idea of “utilizing external knowledge” is emerged. In the past, efforts have been made to consult and jointly developed with suppliers, group firms, or collaboration with universities but this was not always sufficient to meet the required level. Therefore, the idea is to create value for firms through innovation by combining internal and external ideas or “open innovation” is emerged. Open innovation defines as the use of internal and external resources and ideas to solve problems and create unprecedented value. The essential benefit of open innovation is that a firm can quickly and efficiently handle R&D even though the firm does not own the resources or capacity by its own (Chesbrough, 2003, 2006).

In particular, new forms of innovation have formed in the United States since the early 90's when IT (information technology) began to shift to the industrial center. In Japan, though the firms do not maintain long-term relationship in the production process but freely connects people, money, and technology (information) that exist in the area in the innovation process and provides new products that do not exist in the market ahead of other firms. Thus, innovation can be created by linking with an organization that exists outside the company. In such an innovation process, it is important for a company to obtain new information from whom and with whom to go. The following two can be considered as a route for acquiring new information. One is through a “transaction channel” for acquiring new information from customers and sellers and a “research channel” such as a university or a regional research institute. In this research, we examine the effectiveness of open innovation in industry, government, and private sector based on the current status of the innovation process of the enterprise and the means for realization. In order to foster regional innovation and new industries under Hyogo prefecture, we consider what kind of public support measures are required. For this, we first sought to explore which pathways are effective for innovation.

The paper is based on a survey conducted on SMEs of Hyogo prefecture, Japan. The survey questions mainly focused on; “how they are inventing innovation?”, “how to obtain the necessary technology, market, and consumer needs?”, and “how to share knowledge of innovation with internal and external entities.” A simple regression model is developed to determine factors of innovation and constructs two hypotheses concerning the emergence of innovation as; first, industrial agglomeration promotes innovation; and second, innovation is influenced by open innovation. In the former, SMEs acquire information of other firms by being located in the industrial area while the former explains the creation of innovation by linking the SMEs with a firm that exists outside the company. In order to verify the above hypotheses, the research conducted a survey from February 2014 to March 2014 on SMEs listed in Hyogo prefecture.

## **LITERATURE REVIEW**

The research is based on a survey conducted in Hyogo prefecture, Japan from February 2014 to March 2014 with the aim to identify factors of innovation and reviews literature to investigate what are needed to foster innovation by SMEs and to support answering this question, how innovations are produced (Tsuji et al., 2018). This study seeks to construct a new theory on SME innovation by reviewing and comprehending findings and knowledge obtained to date from a unified perspective. Conventional research on innovation in general has focused thematically on individual factors such as absorptive capacity, R&D, and open innovation. While this approach has its advantages, it is critical to conduct research on innovation as a single process from a broad perspective and framework. This analyzes how SMEs acquire new information and ideas that are the source of innovation and conduct R&D to integrate these ideas with management resources within the firm. Finally, it answers how they produce the concrete output of these steps that lead to the development of new products

As new information required for innovation is produced outside the firm (Chesbrough, 2003), how the firm handles the information is critical. Cohen and Levintal (1990) and Zahra and George (2002) consider the innovation process as a learning process, which consists of absorbing new information (1. acquisition), integrating the information with management resources within the company (2. assimilation), converting the information (3. transforming), and delivering new products and services to the market (4. exploitation). They emphasize absorptive capacity as being critical for innovation and divide it into potential capacity and realized capacity. The first two of the four stages of the innovation process above need the former capacity whereas the last two stages require the latter. Nieto and Pilar (2005) expand absorptive capacity by including communication with external parties, know-how and experience within the organization, diversity and multiplicity of the knowledge structure, and strategic positioning. For analysis, the cause-and-effect relationships between a variety of factors and capabilities were examined (Lawson & Samson, 2001; Perdomo-Ortiz, Benito & Galende, 2009).

A critical concept today for advancing innovation is R&D. Like innovation, a great amount of diverse research on R&D has been carried out. The reason is that R&D is risky, and its high rate of failure has drawn the interest of management scholars from the start (Booz, Allen, and Hamilton, 1982; Crawford, 1987; Cooper, 2001; Nadia, 2011; Tomita, 2015). Based on such research, many guidebooks and textbooks on R&D have been published, for example (Crawford, 1987; Smith & Reinertsen, 1998; Cooper, 2001; Kahn, 2013). In general, the R&D process is divided into processes such as conception of ideas, selection for commercial application, development, prototyping, and commercialization (Booz, Allen, and Hamilton, 1982).

Previous research has mainly addressed R&D from the perspective of organizational theory. Studies focused on areas such as acquisition of new information through the R&D organization, sharing the information between members, and the conversion of the information to knowledge, and furthermore, from tacit knowledge to explicit knowledge. Particularly, two roles are considered critical in the R&D process; the gatekeeper, the key person who incorporates new information, and the transformer, who converts the acquired information into knowledge and transmits it to members in the organization (Freeman, 1979; Harada, 2003; Hirasawa, 2013; Nakauchi, 2014; Tsuji et al., 2016, Tomita, 2015). To smoothly convey information, trustworthiness between R&D members is a prerequisite

(Leven & Cross, 2004; Colquitt & Rodell, 2011). Many of these discussions on R&D consider R&D's success or failure as the outcome of their analyses. However, in this study the essence of R&D is not the focus. Instead its relationship to the outcome of R&D in the innovation process is analyzed.

## METHODOLOGY

The research conducted a survey from February 2014 to March 2014 on SMEs listed in Hyogo prefecture. 800 questionnaire sent to target firms and among them 219 firms (27.3%) are selected for the analysis. The questionnaire includes the year of operation start, the size of the company in terms of capital and the number of employees, the type of business, the distance from urban area, the sales and earnings status, and the size of R&D investment. In addition to this, internal innovation capabilities such as available technology, human resources, organization culture, top leadership, status of industrial cluster are included in the questionnaire. The research employs a probit model to determine whether corporate attributes, industrial agglomeration and open innovation are statistically significant or not. Results conclude that open innovation has significant role on innovation and defines factors that cause innovation and non-innovation of the firms selected in the analysis.

## ESTIMATION MODEL AND DATA

This chapter analyzes the data and method applies to determine factors of innovation. A probit regression model is employed by considering types of innovation as dependent variable and firm's age, firm's size, number of employees, cluster and open innovation as dependent variable.

The probit model is expressed as follows using Y as dependent variable and the explained variables X (X1, X2, ..., Xn).

$$y^* = \alpha + \sum \beta X + \varepsilon, \varepsilon \text{ to } N(0, 1)$$
$$y^* > 0, y = 1 \quad y^* < 0, y = 0$$

Where  $\beta$  is a coefficient.

In detail, the equation can be written as follows:

$$y = \alpha + \beta_1 \text{Age} + \beta_2 \text{Cluster} + \beta_3 \text{Open innovation}$$

The following answers are explored based on the questions asked on firms' innovation:

1. We use existing technology to sell new products and services in existing market
2. Create a new market by exploiting existing technology (Development of trading partners)
3. Selling new products and services in existing markets by using new technologies
4. Create new markets (develop business partners) by utilizing new technologies
5. Different from above

In order to the answers, we classified innovation into four categories, such as;

- Type I: Sale new products and services in existing markets by using existing technologies
- Type II: Create new market (business partners) by utilizing existing technology
- Type III: Sale new products and services in existing markets by leveraging new technologies
- Type IV: Create new market (customer) by utilizing new technology

The dependent variable is dummy variable which takes (0, 1) by considering the answer based on the question. This enables the aforementioned probit analysis. In the estimation, four equations are established in consideration with four dependent variables. Thus, four regression outcomes are outlined. The summery statistics of the analysis is illustrated in table 4.

**Table 4.**

*Summary Statistics.*

Variable	Observation	Mean	Std. Dev.	Min	Max
Type I	219	0.429224	0.4960993	0	1
Type II	219	0.418182	0.4943852	0	1
Type III	219	0.245455	0.4313378	0	1
Type IV	219	0.2	0.4009122	0	1
Age	215	1960.414	26.53653	1868	2012
Cluster	217	0.299539	0.4591153	0	1
Open Innovation	216	0.606482	0.4896649	0	1

**Source:** Based on Author's Calculation.

**ANALYSIS**

The results of probit analysis according to the four innovation types are demonstrated in Tables 5 to 8 below.

**Table 5.**

*Dependent Variable as Type I: Innovation.*

	Coef.	Std. Err.	t	P>t	Significance
Age	0.0012	0.0013	0.91	0.362	
Cluster	0.1274	0.0747	1.71	0.089	*
Open innovation	0.1446	0.0708	2.04	0.042	***
_cons	-1.9711	2.4930	-0.79	0.430	
Number of obs	208	R-squared		0.0465	
F( 3, 204)	3.32	Adj R-squared		0.0325	
Prob > F	0.0209	Root MSE		0.48913	

**Notes:** \*\*\*, \*\*, \* represents 1%, 5%, and 10% significance level, respectively.

**Table 6.**

*Dependent Variable as Type II: Innovation.*

	Coef.	Std. Err.	t	P>t	Significance
Age	-0.0022	0.0013	-1.74	0.084	*
Cluster	0.1482	0.0732	2.02	0.044	***
Open innovation	0.1987	0.0694	2.86	0.005	***
_cons	4.5145	2.4487	1.84	0.067	*
Number of obs	209	R-squared		0.0739	
F( 3, 205)	5.45	Adj R-squared		0.0603	
Prob > F	0.0013	Root MSE		0.48047	

**Notes:** \*\*\*, \*\*, \* represents 1%, 5%, and 10% significance level, respectively.

**Table 7.**

*Dependent variable as Type III: Innovation.*

	Coef.	Std. Err.	t	P>t	Significance
Age	-0.0009	0.0011	-0.83	0.408	
Cluster	0.1298	0.0648	2.00	0.047	***
Open innovation	0.1003	0.0614	1.63	0.104	*
_cons	1.9411	2.1671	0.90	0.371	
Number of obs	209	R-squared		0.0386	
F( 3, 205)	2.74	Adj R-squared		0.0245	
Prob > F	0.0442	Root MSE		0.42522	

**Notes:** \*\*\*, \*\*, \* represents 1%, 5%, and 10% significance level, respectively.

**Table 8.**

*Dependent variable as Type IV: Innovation.*

	Coef.	Std. Err.	t	P>t	Significance
Age	0.0000	0.0010	0.03	0.974	
Cluster	0.0802	0.0606	1.33	0.187	
Open innovation	0.1619	0.0574	2.82	0.005	***
_cons	0.0163	2.0249	0.01	0.994	
Number of obs	209	R-squared		0.0525	
F( 3, 205)	3.79	Adj R-squared		0.0386	
Prob > F	0.0113	Root MSE		0.39731	

**Notes:** \*\*\*, \*\*, \* represents 1%, 5%, and 10% significance level, respectively.

From the above analysis, "Cluster" is significant except for type IV innovation, while "Open innovation" is significant for all innovations. In particular, "open innovation" was significant at 1% level except for III, and even for type IV with a small number of samples, it was significant ( $p > 0.01$ ). Thus, it turns out that both "cluster" and "open innovation" have a significant impact on innovation in local industries. In addition, when comparing "cluster" and "open innovation", the latter is considered to have a greater effect on innovation from the above results and the size of the estimated value. The above results are different from previous research. For example, Ishikura, Fujita, Maeda, Kanai (2003) analyze innovation in industrial clusters, and conclude that industrial agglomeration causes

innovation. Besides, cluster policy has been promoted as industrial agglomeration is important for the emergence of innovation. However, this research shows that open innovation is more effective than the industrial agglomeration although it is limited by SMEs in Hyogo prefecture. The findings can be summarized as follows:

### **Effect of Cluster**

First, in order to the cluster, 66 (30%) firms believe the industrial cluster in the region while 25% of the respondents answer negatively. It can be said that innovative firms are more aware of agglomeration. According to merits of cluster, 35.5% responds that there is no cooperation within the region followed by tips for problem solution is 16.1%. 12.5% responds that it is easy to obtain latest technical information from the collaborative firms. Besides, 22.7% innovative firms' respond that latest technical information is easy to obtain followed by 18.6% respond negatively. Latest market information is available and easily accessible is responded by 17.8% firms. The only negative information responded by the firms is there is no perfect cooperation in the region. In terms of satisfaction with cluster, 24.7% of the positive responses were "very satisfactory" and "somewhat satisfactory", but "otherwise unsatisfactory" and "completely satisfactory." The negative response is "the same as 24.1%". If the answer "normal" (about 50%) is considered positive, 76% of firms give a positive answer. Looking at this as an innovative company, 32% of the positive responses "very satisfied" and "somewhat satisfied" are negative while the other ones "nearly dissatisfied" and "not satisfied at all." The answer is 14.6%, and it can be said that innovative firms are more satisfied. The above effects of industrial agglomeration are not directly related to individual firms, but some believe that they are more effective for coverage and expansion while innovative firms are more satisfied with the point of satisfaction

### **Effect of Open Innovation**

As for open innovation in the region, 132 (60%) responded that they are working in this issue. Besides, since 88 firms specifically respond to open innovation partners, it can be said that 40% of the firms in all samples are implementing open innovation with some differences. Especially in the case of innovative firms, 186 firms have open innovation partners when it recognizes duplication. As a simple average, 96 firms (about 60% of the responding firms) have partners, which is relatively larger than all samples. With regard to open innovation partners, in all the samples, the "sale to customers" is the largest at about 30% followed by "affiliated parent firms" (15%) and all other counterparts are less than 10%. On the other hand, among the innovative firms, "sales partners (customers)" (22.5%) are the largest, followed by "University in the prefecture" (14.5%), "suppliers" (10.9%), "same firms" (10.4%). Business partners consist of "affiliated parent firms", "subsidiaries", "sales partners (customers)", "suppliers", "same traders" and "industry groups" are trades and logistics (supply chains) if classified as an intellectual route such as "path", "public research and research institute", "university in prefecture", "university outside prefecture", "industry support agency of local government", "trading route." Although "intellectual path" is one-third of two, "inventive company" has about 60% of the trade path and about 40% of the intellectual path, and the ratio of the intellectual path is slightly higher than all samples. The information obtained from "trading path" is 81.8% of the whole, while the "intellectual path" is 19.2%, and information is overwhelmingly obtained from the trading path. Information sources of innovative firms are characterized as 57% for "trading path" and 38.8% for "intellectual path" and about twice as many contacts with

intelligent paths. As for the distance, the whole sample has the largest number of 10 to 100 km including the Kansai region. Within 10 Km, it is about 14%. On the other hand, in the case of innovative firms, more than half of the whole “less than 10 to 100 km radius” including the Kansai region, “less than 100 to 500 km radius” including the Tokyo area is approximately one third, further distant compared to the whole sample. The number of partners located in the same municipality is less than 10%, which is smaller than the proportion of the entire sample. In the automobile industry, R & D are being carried out while maintaining close cooperation between automobile manufacturers and affiliated firms. In the Tokai region, such regional cooperation between the parent company and the affiliated can be seen effectively (Tsuji et al, 2013). The large firms in the Hyogo prefecture maintain strong cooperation with firms outside the prefecture too that help the firms to innovate effectively.

## **CONCLUSION**

Conventional product and process innovation can be seen within a firm or within a group of affiliated firms and technology and know-how that have been accumulated. However, as mentioned above, open innovation is the basis of today's collection of information, technology and ideas from inside and outside the company and combining them to construct a business model. Innovative firms collaborate with various firms and organizations in the region to innovate by collecting information, technologies and ideas such as customer needs, advanced technologies, and new product development information of rival firms. In such a case, a strategy is needed to share information and use resources throughout the transaction path from production to customers. In addition, it is necessary to connect all firms and research institutes in the intellectual path in the area and share information. The use of ICT is essential for sharing such information and the local government should implement policy to cooperate and collaborate ideas among SMEs in the region.

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## **IMPACT OF SERVICE QUALITY AND TRUST ON SATISFACTION OF UBER AND REGULAR TAXIS IN THAILAND**

by

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### **ABSTRACT**

This study focuses on the service quality dimensions which influence customer satisfaction in regular taxi and mobile application-based taxi (Uber) in Thailand. The author proposes a research framework to assess how trust and service quality have an impact on customer satisfaction in taxi services. This study hypothesized that service quality of Uber should be superior than regular taxis, and satisfaction is moderated by trust. The study conducted a survey on 500 respondents who had experienced with both regular taxi and Uber in Bangkok metropolitan areas using multiple regression model. The descriptive results confirmed that service quality of Uber is superior than regular taxis, however, the regression results suggested that trust does not influence customer satisfaction for Uber users. The multiple regression results suggested positive impacts of tangibles, reliability, assurance, and trust on overall satisfaction for regular taxis, while the results suggested that tangibles, reliability, and responsiveness were significant predictors of satisfaction for Uber. The outcomes of this research should help identifying gaps of the missing qualities for taxi industry of Thailand. This research also provides a better understanding of service quality and trust in a context of mobile application service in Thailand. An understanding the Uber's superior quality and mobile application usage towards trust could be used as a tool to solve fundamental issues in improving regulations in controlling taxis in Thailand.

**KEY WORDS:** Service quality, application service providers, transportation.

### **INTRODUCTION**

Public transportation is an important infrastructure for people in Bangkok areas. Numerous choices of public transportation modes are available such as Bangkok Mass Transit System (BTS), Metropolitan Rapid Transit (MRT), Suvarnabhumi Airport Rail Link (SARL), Tuk-tuk (rickshaw), and taxi service. Among these choices, taxis are among the popular ones, passengers in Bangkok can access more than 126,000 taxicabs on their daily basis (Peungnumesai et al., 2017). These taxis are regulated under Division of Land Transport's Ground Transportation (Sopranzetti, 2017). However, usage of these taxis has been declined due to rivalries from ride-sharing application-based or as known as Transportation Network Companies (TNCs) such as Uber and Grab. TNCs has entered Thailand's in mid 2014. Uber declared in excess of 2 million users within their first three years of operations (Ruangkanjanases and Techapoolphol, 2018).

Uber promotes car fleets with clean, comfortable seats, and courtesy drivers. Passengers can download Uber application to reserve spot for a ride and provide feedback after experienced the service (Pandya et al, 2017). As the application-based taxi administrations en-

tered Thailand in November of 2014, Uber was claimed illegal according to Ministry of Transport due to its unlicensed procedure of vehicles, driver registrations, and discrimination over a usage of credit cards (Bashir et al, 2018). These claims on unlawful administrations TNCs occurred similarly in Oregon, Bulgaria, Denmark, Hungary, and parts of Germany. In 2014 -2018, Uber operated illegally by ignoring the fines implemented by Thai government for Bht4,000 if Uber drivers are seen by Thai police on the streets. The concerns on sharing economies, for example, allocation-bases room bookings or as known as AirBnB and Uber, have brought up the issue whether these administrations should be regulated by the government or not, and what are the determinants that make passenger prefer these new services over the conventional ones.

From a point of view of TNCs, any free markets should enable new companies to compete openly against the conventional industry which functioned similarly across the world (Wallsten, 2015). As indicated by Moon (2017), administrators in numerous nations have requested application-based organizations to conform with the current standards and guidelines in which have fundamental purposes to protect passages overrate charges. However, these regulations could be seen as deterrence of competitions in free economy that should allow passengers to make their own decisions dependent on cost and service outcomes (Posen, 2015). According to Thadphoothon (2017), taxis (or regular taxis) in metro Bangkok area has been known for poor services; travelers normally documented complaints on rejected pick-ups and over charges from-and-to airplane terminals. Travelers also experienced dangerous driving behaviors, poor vehicle conditions, and safety of rides. This paper investigates the rivalries in taxi services of Thailand and looks at measurements the two types of service (Uber vs regular taxis) to compare and understand the differences in the service gaps. The results from this examination should give recommendations for regulators and policy makers to figure out what are the determinants that differentiate good services from the inferior ones.

## LITERATURE REVIEW

A commonly known measure for service quality is proposed by Parasuraman et al. (1988). Five service quality dimensions are components of *tangibles, reliability, responsiveness, assurance, and empathy* or as known as SERVQUAL. The measure has been utilized generally in a support to evaluate consumer loyalty (Parasuraman et al., 1988; Brensinger and Lambert, 1990; Cronin and Taylor, 1992; Babakus and Boller, 1992) and past experiences between perceived value and intention to buy (Phuoung and Trang, 2018; Cheewathanakornkul and Jirachot, 2018). Multiple literature confirmed that service quality has strengthened positive competitiveness for organizations (Mosahab, 2010; Fitzsimmons, et al., 2014; Sharma and Das, 2017). Customer experience is found to have direct relationship with company's image (Zins, 2001; Gilbert and Wong, 2003). In transportation industry, past investigations went for distinguishing service quality for commuters in multiple public transportation modes (Flem and Schiermeyer, 1997; Galetzka et al, 2008; Michel, 1999; Evans and Shaw, 2001), yet less attention has been paid to understand the differences within the same mode of transportation, for example, premium service and low cost transportation services, and between brick and mortar and application based service. The investigations of service quality and the effect of trust for taxi services in this paper aim at looking into the determinants that could differentiate the services between standard taxicabs and TNCs by separating measurement of trust and usage of application benefits. Measures in service quality can suggest how superior services are provided in comparison to the inferior ones (Parasuraman et al, 1988; Bitner and Dolan, 1996).

Modern hail-riding applications for taxi service provide opportunities for passengers to explore transportation options, functions, and service attributes using mobile phones. While most of the literature paid attention to the evaluation of service during experience of transportation service, some studies argued that the evaluation should be evaluated after the experiences are finished (Rushton and Carson, 1989; Santos, 2003; Abdullah and Kassim, 2009). Regular taxis and TNCs shared similarities in service dimensions, yet there are differences in user characteristics, amount of wait time, and number of trips (Rayle et al, 2014). As literature suggested that service quality had positive relationship to consumer loyalty and buying expectation (Brensinger and Lambert, 1990; Cronin and Taylor, 1992; Babakus and Boller, 1992), only few literatures studied a comparison between two types of service during and after service from individual passenger's perspective (Dempsey, 1996; Schaller, 2007). These studies make arguments that regular taxis were unable to provide superior quality due to constrained guidelines provided by regulators in many countries. As regulators played important role to protect passenger's safety benefits and control operations in transportation. Seminal literature suggested that equilibrium quality may be higher or lower than socially optimum due to price elasticity of demand (Spence, 1976; Mussa and Rosen, 1978; Laffont and Tirole, 1994; Besanko and Gupta, 2003). As regulators sets the lowest value that guarantees that welfare or advantages to the passengers are maximum, Lewis and Sappington (1992) found that ideal administrative approach depends basically on the controller's capacity to control for activates and quality of the services provided by service providers. This study aims at identifying regular taxicabs and TNCs by comparing the impact of regulated and non-regulated activities enforced by the government.

## BACKGROUND THEORY AND RESEARCH FRAMEWORK

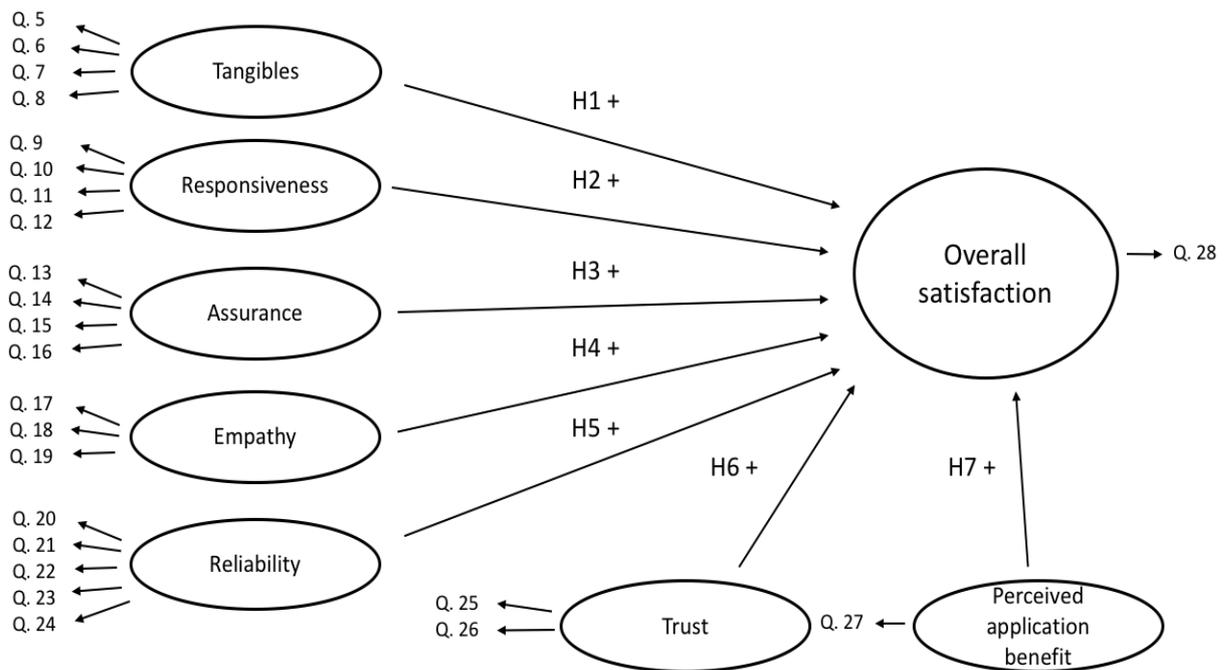
The five components of SERVQUAL (*tangibles, reliability, responsiveness, assurance, and empathy*) are utilized to assess to assess customer satisfactions against their expectations (Parasuraman et al, 1985). *Tangibles* refers to a perception of physical appearances and state of the physical environment (for example neatness or orderliness) (Parasuraman et al., 1985; Iwaarden et al., 2003; Fitzsimmons et al., 2014; Sharma and Das, 2017). *Reliability* is an ability to perform service correctly and precisely. For transportation, reliable service is depending intensely on directions (Fitzsimmons et al., 2014) and the drivers' ability to drive to right destination within the shortest path (Sharma and Das, 2017). *Responsiveness* refers to willingness to respond to request and offer prompt service (Parasuraman et al., 1994; Grönroos, 1990; Iwaarden et al., 2003). Taxi drivers should demonstrate eagerness to tune in to passenger demands or concerns and have the option to give arrangements according to requests (Sharma and Das, 2017). *Assurance* is confidence and knowledge of service providers to capability to provide services with credibility and security (Iwaarden et al., 2003; Fitzsimmons et al., 2014). *Empathy* is how service providers caring attentions to customers from heart, an understanding of the needs and attention to details (Sharma and Das, 2017, Iwaarden et al., 2003; Fitzsimmons et al., 2014).

In order to understand modern transportation service, previous studies paid attention to investigate interaction of *trust* as basics structure to build connections between service providers and customers. Trust can be estimated through information and the way transactions are made securely and independently (Rousseau et al 1998; Singh and Sirdeshmukh, 2000). Trust is a tool to assure customers for trustworthiness of the service (Morgan and Hunt, 1994; Sirdeshmukh et al., 2002). Trust could be found in both conventional and

modern business. To deliver trust service providers can maintain high level of affirmative security, which would make firms differentiate itself from competitors (Bloemer et al, 1999; Parasuraman et al., 1996). Many researchers had looked at trust in electronic business and found that trust can be estimated by security of transaction and security of personal information (Doney and Cannon, 1997). In a study of the effect of trust on service quality (Singh and Sirdeshmukh, 2000; Singh and Deepak, 2000), these studies proposed that trust can be modeled an antecedent of pre- and post-trust interactions of service quality and satisfaction. Numerous literature recommended trust as a determinant to improve customer and provider relationship, trust was commonly used as a determinant of mobile application adoption usage of mobile application (Lu et al, 2011; Siau and Shen, 2003). Trust was found to have a direct relationship between trust and willingness to purchase online services (Darley et al, 2010; Kim and Lennon, 2013). Other studies recommended trust, as an apparent advantage of service usage, positively affects utilization products (Kim and Park, 2013; Lee and Song, 2014). This study hypothesizes that mobile application benefit will increase overall satisfaction in mobile application service (Uber) such that service quality would have positive effect on trust and mobile application benefits improve overall satisfaction of taxi services.

### CONCEPTUAL FRAMEWORK

**Figure 1.** Conceptual Framework and Hypotheses



The conceptual model (Fig 1) depicts relationship of service quality (*tangibles, reliability, responsiveness, assurance, and empathy*) and its effect on trust and application benefit on satisfaction of ride-hailing service (Uber). The hypotheses are provided in the following table.

**Table 1.**

*Summary of Hypotheses.*

<b>Hypothesis</b>	
H1:	Mobile application based taxis provide better tangibles than regular taxis
H2:	Mobile application based taxis have higher reliability compared to regular taxis
H3:	Mobile application based taxis provide service with better empathy than regular taxis
H4:	Mobile application based taxis provide service with better assurance than regular taxis
H5:	Mobile application based taxis are more responsive than regular taxis
H6:	Trust will have positive impact to overall satisfaction in both regular taxis and Uber

## **METHODOLOGY**

A set of survey questions was designed to confirm the propositions. The questionnaire aims to reach Uber and regular taxi users in Bangkok metro area. The questionnaire is designed with three parts. The first part contains a set of questions related to demographics on gender, age, education level, and occupation. The second part contains 20 SERVQUAL items as an assessment of service quality and overall satisfaction on a 5-point-Likert scale. This questionnaire on SERVQUAL dimensions were adapted from Parasuraman, et al. (1994). The third part focuses on measuring the level of passengers' perceived benefits on mobile application and trust. All respondents are previous passengers with experiences on both regular taxis and Uber and responsible to complete a survey for an evaluation of both services. The descriptive statistics of responders are provided in Table 2.

**Table 2.**

*Descriptive Summary.*

<b>Variables</b>	<b>Category</b>	<b>Frequency (N = 500)</b>	<b>Percent (%)</b>
Gender:	Male	194	38.8
	Female	306	61.2
Age:	Below 18	43	8.6
	18 – 24	70	14
	25 – 34	250	50
	35 – 44	74	14.8
	45 – 54	31	6.2
	55 or over	32	6.4
	Education:	High school or less	48
Bachelor’s degree		374	74.8
Master’s degree or higher		78	15.6
Student		80	16
Occupation:	Employee	242	48.4
	Business owner	94	18.8
	Retried	23	4.6
	Other	61	12.2

**Table 3.**

*Descriptive Summary for Service Dimensions in Regular Taxis.*

Variable	Regular Taxi				
	N	Mean	S.D.	Min	Max
Tangibles	500	3.1465	0.605513	1.75	5
Responsiveness	500	3.0095	0.6207297	1	5
Assurance	500	2.796667	0.6734706	1	5
Empathy	500	3.0745	0.5713823	1	5
Reliability	500	2.8976	0.6189349	1	5
Trust	500	3.006	0.7106152	1	5
Overall Satisfaction	500	4.1765	0.578699	1.75	5

**Table 4.**

*Descriptive Summary for Service Dimensions Uber.*

<b>Mobile Application Based Taxi (Uber)</b>					
Variable	N	Mean	S.D.	Min	Max
Tangibles	500	4.0015	0.6704639	1.25	5
Responsiveness	500	4.088	0.7551725	1	5
Assurance	500	3.593	0.5499599	2	5
Empathy	500	3.9936	0.7193567	1.4	5
Reliability	500	4.083	0.6462944	2	5
Trust	500	3.593	0.5499599	2	5
Overall Satisfaction	500	4.296	0.83052	1	5

By comparing Table 3 and 4, the tables showed that an average score of overall satisfactions of Uber (4.296) is higher than an average score of overall satisfactions of regular taxis (4.1765). Moreover, by considering each independent variable of this study, Uber projected a higher overall mean score, compared to regular taxi. For examples, in terms of tangibles, mean score of Uber (4.0015) is higher than mean score of regular taxi (3.1465), responsiveness mean score of Uber (4.088) is also higher than regular taxi (3.0095), while reliability mean score of Uber (4.083) is apparently higher than reliability of regular taxi (2.8976).

## RESULTS

Table 5.

*Multiple Regression Results.*

	(1) Regular Taxi	(2) Uber	(3) Trust
Tangibles	<b>0.305</b> <sup>***</sup> (0.0592)	<b>0.490</b> <sup>***</sup> (0.0738)	<b>0.490</b> <sup>***</sup> (0.0738)
Empathy	0.122 (0.0737)	0.123 (0.0756)	0.123 (0.0756)
Reliability	<b>0.382</b> <sup>***</sup> (0.0809)	<b>0.348</b> <sup>***</sup> (0.0565)	<b>0.348</b> <sup>***</sup> (0.0567)
Responsive	-0.0798 (0.0660)	<b>0.144</b> <sup>*</sup> (0.0592)	<b>0.145</b> <sup>*</sup> (0.0591)
Assurance	<b>0.155</b> <sup>*</sup> (0.0725)	0.0574 (0.0596)	0.0572 (0.0593)
Trust	<b>0.298</b> <sup>***</sup> (0.0578)	-0.00891 (0.0586)	-0.00913 (0.0587)
Mobile App (Uber only)			0.00417 (0.0365)
_cons	-0.728 <sup>***</sup> (0.132)	-0.428 <sup>*</sup> (0.193)	-0.448 (0.258)
<i>N</i>	500	500	500
<i>R</i> <sup>2</sup>	0.602	0.693	0.693
adj. <i>R</i> <sup>2</sup>	0.597	0.689	0.689
F	135.9	181.3	158.7

Standard errors in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Multiple regression results are provided in Table 5. The hypothesis 1 stated that Ubers provide better tangibles than regular taxis. The result reflects that Tangibles, or the appearance of physical equipment, personnel, and visual materials, play a significant role in overall customer satisfaction derived from both Uber and regular taxis. However, Uber (Coefficient = 0.490, P-value = 0.0738) has a positive correlation with overall customer satisfaction more than regular Taxi (Coefficient = 0.305, P-value = 0.0592), which confirms Hypothesis 1 of the research. Hypothesis 2 states that Ubers are more responsive than regular taxis. The Responsiveness of Uber shows level of significant as  $P < 0.05$  (Coefficient = 0.145\*, P-value = 0.0591) when comparing with regular taxi that does not show positive correlation to overall customer satisfaction ( $P > 0.05$ , Coefficient = -0.0798, P-value = 0.0660). Hence, it confirms the statement of Hypothesis 2 that the willingness to help riders and provide timely service of Uber plays a vital role in overall customer satisfaction more than regular taxi. Focusing on Assurance aspect, regular taxi has a positive correlation with the dependent variable for overall customer satisfaction ( $P < 0.05$ , Coefficient = 0.155\*, P-value = 0.0725).

On the other hand, Uber ( $P > 0.05$ , Coefficient = 0.0572, P-value = 0.0593) do not sufficiently show level of significance in this aspect in contributing to the overall customer satisfaction. Therefore, it is impossible to confirm the Hypothesis 3 in this study because Ubers did not sufficiently make customers feel secured with regard to the knowledge and ability of service. The result of Empathy, or individualized attention provided to the customers, reflects that both Uber ( $P > 0.05$ , Coefficient = 0.123, P-value = 0.0756) and regular taxi ( $P > 0.05$ , Coefficient = 0.122, P-value = 0.0737) scores are not adequately significant to imply positive correlation with overall customer satisfaction. Thus, the result is not sufficient to confirm the statement of hypothesis 4 that Ubers provide service with better empathy than regular taxis. Reliability, or the capability to deliver the guaranteed service reliably and accurately to the customers, also plays a critical role in determining overall customer satisfaction for both Uber and regular taxi, with regard to the high level of significance as  $P < 0.001$ . However, it is also impossible to confirm the Hypothesis 5, that Ubers are more reliable than regular taxis, since Uber only displays slightly lower positive correlation with Overall customer satisfaction (Coefficient = 0.348, P-value = 0.0567) than regular taxi (Coefficient = 0.382, P-value = 0.0809).

Apart from the five perspectives of the SERVQUAL model, this study also assumes that high level of trust will result in a more positive attitude towards Ubers than regular taxis (Hypothesis 6). Nevertheless, Trust does not sufficiently signify its contribution to the Overall customer satisfaction of Ubers' riders (Coefficient = -0.00913, P-value = 0.0587) while it plays a significant role for regular taxis' riders (Coefficient = 0.298, P-value = 0.0578). The regression model also suggested that perceived application benefit have a positive impact on overall satisfaction only in Uber (Hypothesis 7). Nonetheless, the result shows that perceived application benefit is not significant enough to influence the overall customer satisfaction of Ubers' riders (Coefficient = 0.00417, P-value = 0.0365). In addition, result of F-test presents that, by adding Perceived application benefit as an independent variable then comparing the three Models (1), (2), and (3), the regression Model (2) fits better than Model (1) because F-test is increased from 135.9 to 181.3. Furthermore, F-test is also increased from 135.9 in Model (1) to 158.7 in Model (3).

## **CONCLUSIONS AND RECOMMENDATIONS**

This study focuses on the service quality dimensions that influenced customer satisfaction in regular taxi and mobile application-based taxi (Uber) in Thailand. This study confirmed some of the service quality dimensions of Uber that are superior than regular taxis and the effect. In a competitive service industry, it has become more difficult and complicated for service providers to achieve high perceived service quality level from customers. Based on the findings of this study about regular taxis, it indicates that Tangibles, Assurance, Reliability, and Trust play critical roles in contributing overall customer satisfaction of regular taxis. Therefore, service providers should focus more on these components. In terms of Tangibles; regular taxis should ensure the cleanliness and comfort for the passengers, both outside and inside the car, such as clean seat and clear windows. Moreover, appearance of the driver should look professional, and visibility of the driver ID and license plate inside the car should be ensured.

As service measurements were planned and performed by taxi providers, guidelines can force service providers to comply with the regulations and provide service in a certain way. According to The Land Traffic Act area 93-102 (Appendix 1), regulated taxi drivers must be complied with some aspects of tangibles (such as visibility of meters), reliability (such as driving behavior and on-time delivery), and assurance in terms of politeness, communication skills, and knowledge of route and traffic. The mapping between The Land Traffic Act and SERVQUAL measurement is shown in Appendix 1. By focusing on Assurance aspect, regular taxi companies must place a strong importance on safety issue by regularly improving drivers' skill and evaluate behavior of every taxi driver to ensure safe ride. Also, it is important to keep the drivers updated, regarding routes and traffics, which could allow them to recommend the best route to the passengers with positive attitude. Third aspect is reliability; by improving the accessibility to ensure that it is convenient to reach regular taxis when they want to use the service. The firms should be able to encourage regular taxi drivers to unconditionally accept every requests from the passengers. Moreover, the drivers should ensure that passengers will reach their destination correctly and timely (without getting lost or intentionally use longer route). Last aspect for regular taxis, Trust; firms should implement some policies related to security of transaction such as a measure to ensure that the drivers will correctly give change to the passengers e.g. some drivers ask for extra money without customers' willingness. General standard should be applied to the fee of regular taxi to ensure that both Thai citizens and foreigners are charged equally, based on meter only and not on packages or lump-sum.

Furthermore, this study suggests recommendations to regular taxi firms to focus on Assurance and Trust in order to differentiate their service from Uber as the two aspects have a more significant impact on overall customer satisfaction of regular taxi, compared to Uber. With regard to Ubers, Tangibles, Responsiveness, and Reliability are the key components that impact overall customer satisfaction. In terms of Tangibles and Reliability aspects, they can be similarly implemented to regular taxis, which is to improve and ensure that the outside and inside appearances the car are tidy, and to also make sure that their cars arrive to pick-up at the location without rejecting any requests. Hence, Ubers should consider to focus on responsiveness in order to differentiate their service from regular taxis. Focusing on responsiveness aspect; Ubers must ensure that the drivers show willingness to provide service with responsive communication, such as calling to confirm the location and time with passengers or providing solutions to customers in timely manner with positive attitude. Moreover, the overall customer satisfaction will be increased if Ubers' drivers are willing to listen to passengers' complaints and able to make adjustment based on passen-

gers' requests e.g. time and location of pre-booking. According to The Land Traffic Act section 93-102 (<http://www.dlt.go.th>, 2018), regulated taxi drivers must be comply with some aspects of tangibles (visibility of meters), reliability (driving behavior, on-time delivery), and assurance (politeness, communication skills, knowledge of route and traffic), the results confirmed regular taxis maintain high levels of these three dimensions. Tangibles, reliability, and assurance also induce trust in regular taxi service which is seemingly lacking in Uber service. Moreover, on the observations of the impact service quality and trust on satisfaction, the results suggested that tangibles, empathy, and reliability, are significant determinants for satisfaction for both regular taxis and Uber. This outcome confirms that cleanliness of physical appearance, a competency to perform the service with respect and politeness, and on-time performance are very crucial for the industry. Uber service is superior in level of responsiveness or willingness of enthusiasm of service providers to support consumers and offer prompt service in which directly impact satisfaction for its service. However, assurance and trust were not significant in this model. This outcome could imply the reason why regular taxis are still favorable, although the overall scores of service dimensions are higher than Uber than regular taxis.

The outcomes of this study suggested that technologies (such as mobile service apps and payment systems) played important role in service quality between customers and providers. While customers seek for quality of service in multiple aspects (such as tangible, reliability, responsiveness, assurance, and empathy), the study proposed that different quality aspects may have different impact on the overall service performance. The implications of this study could be beneficial for service providers to focus more on the components of the exterior and interior facilities of regular taxis (tangibles). The taxi drivers should be equipped with the knowledge on alternative roads as an option for passengers to reach their destination (assurance), and drivers should be on-time (reliability). The observation from this study found that Thailand's regulator only focused on tangible items and in-placed secured system as a part of their safety standard, yet they highly ignored other important attributes such as empathy of their staffs. In Thailand, the 'offline' taxis are less likely to deliver good quality. This study suggested that the regulator can take part to set regulations that align with customer expectations and should acknowledge customer preferences and desired quality to accommodate the needs of both customers and gain more satisfaction from the service.

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**APPENCICES**

**Appendix I.**

**A Conceptualized Mapping between Service Quality and Road Traffic Act Section 93-102**

The Road Traffic Act BE2522	SERVQUAL Dimension
<p>Section 93. No taxi driver shall refuse to be employed in carrying passenger unless it may cause damage to him or her or to the passenger. In case the taxi driver does not wish to carry passenger, he or she must display the sign of refusing to carry passenger. The method of displaying sign and nature of sign refusing to carry passenger shall be in accordance of the law on vehicle.</p>	<p>Reliability – no service refusal</p>
<p>Section 96. No taxi driver shall collect traveling fee in excess of that appearing on the taxi-meter. The nature and method of using taxi-meter shall be prescribed in the Ministerial Regulation.</p>	<p>Tangibles - Visibility of safety (driver ID, license plate, etc.)</p>
<p>Section 99. While driving taxi, no taxi driver shall: (1) smoke cigarette, turn on radio or acting whatsoever in the manner annoying passenger; (2) stretch his or her hand, arm, or any part of body outside the conveyance, except in giving signal under section 37; (3) hold the steering wheel with single hand, except in case of necessity; (4) make sound signal when entering the area of hospital, working office or school; (5) blow horn signal for hastening other conveyance; (6) overtake or cut in other conveyance in the terrible manner likely to cause danger; (7) drive rapidly in the residential area of other person; (8) admit a passenger within the area having sign prescribed by the traffic officer to be an area of no admission of passenger; (9) express impolite, satirical, disdainful or insulting expression, or act in such manner to other passenger or person.</p>	<p>Assurance – Politeness, knowledge on route</p>
<p>Section 100. The taxi driver must take passenger to the destination through the shortest or fastest route, or must not excessively bypass, and must take passenger to the place already agreed upon. No taxi driver shall by any reason whatsoever abandon the passenger on the way.</p>	<p>Reliability – On-time delivery Assurance – Knowledge on traffic knowledge on traffic</p>
<p>Section 101. The Taxi driver must dress in uniform having sign sewed or embroidered thereon. The character of uniform and sign shall be prescribed by the Commissioner-General by publication in the Government Gazette. The provisions of paragraph one shall come into force upon the lapse of sixty days from the date the announcement of the Commissioner-General comes into force.</p>	<p>Tangibles - Driver uniform/ appearance</p>

**Appendix II.**

**Survey Forms**

**Questionnaire Form**

**An investigation of passenger perceived value in choosing regular taxis versus mobile application based taxis: A case study of Bangkok, Thailand**

This survey is submitted partial for the degree of Master of Business Administration

It contains 3 part as follows:

**Part 1** Demographic information of respondent

**Part 2** Understanding and measuring the level of passengers' satisfaction on regular taxis

**Part 3** Understanding and measuring the level of passengers' satisfaction on Uber

**1. What is your gender?**

- Male
- Female

**2. What is your age?**

- Below 18
- 18 – 24
- 25 – 34
- 35 – 44
- 45 – 54
- 55 or over

**3. What is the highest level of education you have completed?**

- High school or less
- Bachelor's degree
- Graduate degree

**4. Which of the following best describes your current occupation?**

- Student
- Employee
- Business owner
- Retried
- Other.....

Topic	Level of Satisfaction of Regular taxis				
	Extremely Dissatisfied (1)	Dissatisfied (2)	Neither Satisfied nor Dissatisfied (3)	Satisfied (4)	Extremely Satisfied (5)

How satisfied are you with service of regular taxis?					
	(1)	(2)	(3)	(4)	(5)
Appearance/cleanliness from outside					
Appearance/cleanliness inside					
Visibility of safety (driver ID, license plate, etc.)					
Driver uniform/ appearance					
Willingness to provide service					
Willingness to make change/adjustment based on customer					
Provide responsive communication					
Provide solutions in timely manners					
Driving skills					
Communication skills					
Knowledge on route					
Knowledge on traffic					
Deliver services by heart					
Understand the need of customers					
Pay attention to details					
Operating time/ access is convenient to all customers					
Arrivals at your location on time (no delay)					
Arrivals the destination on time (no delay)					
Provided services right at first time					

Provide services as promised					
Security of transaction					
Security of personal information					
Overall satisfaction					
<b>How satisfied are you with service of UBER?</b>					
	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>
Appearance/ cleanliness from outside					
Appearance/ cleanliness inside					
Visibility of safety (driver ID, license plate, etc.)					
Driver uniform/ appearance					
Willingness to provide service					
Willingness to make change/ adjustment based on customer					
Provide responsive communication					
Provide solutions in timely manners					
Driving skills					
Communication skills					
Knowledge on route					
Knowledge on traffic					
Deliver services by heart					
Understand the need of customers					
Pay attention to details					
Operating time/ access is convenient to all customers					
Arrivals at your location on time (no delay)					
Arrivals the destination on time (no delay)					
Provided services right at first time					

Provide services as promised					
Security of transaction					
Security of personal information					
Overall satisfaction					

**IMPORTANCE OF INDIVIDUAL AND SOCIAL FACTORS INFLUENCING  
CHINESE STUDENTS' ENGLISH EFFICIENCY**

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**ABSTRACT**

The objectives of this study were to analyze students' need and to investigate important elements facilitating second language learning in Chinese students in order to provide recommendations for universities. This study aimed to answer the following questions: (1) What are language strategies that Chinese students employ in second language learning? (2) What are Chinese students' motivation and attitude towards second language learning? and (3) What do Chinese students think about social factors influencing second language learning? The data were collected from in-depth interviews with 13 Chinese students studying in an international university in Bangkok. The recordings and notes were then transcribed and analyzed. The findings indicated that both individual factors and social factors had an influence on Chinese students' English learning. However, the university plays an important role in reinforcing the students' learning strategies, changing their attitudes about learning English, and providing necessary facilities to improve their English skills.

**KEY WORDS:** Chinese students, learning strategies, individual factor, social factor, language efficiency

**INTRODUCTION**

Universities in Thailand have become popular for many Chinese students. Most of international students in Thailand are Chinese (Luo, 2016). According to the Office of Higher Education Commission (2019), there were 8,143 Chinese students studying in universities in Thailand in the 2018 academic year. One of the reasons why they decide to study in Thailand is an affordable tuition fee. The quality of education is also attractive to them. In addition, the cost of living in Thailand is cheaper than in other countries. Moreover, Thailand is located near their country; therefore, it is easier for Chinese students to travel back home or for their parents to visit them in Thailand. Finally, studying abroad provides more opportunities and

access to better jobs, especially those who are planning to work at or run businesses in Thailand.

A lot of Chinese students study in universities that offer international programs such as Assumption University, Dhurakij Pundit University, Bangkok University, University of Thai Chamber of Commerce, and Stamford International University. English is important for their studies, and it must be used in daily life to communicate with others. However, some students were found unable to begin their study programs immediately because of their limited English proficiency. They needed to enroll in English foundation courses first in order to improve their English skills before studying in their chosen programs. Also, some students have to repeat English courses many times, wasting a lot of time and money. In the current study, researchers therefore would like to analyze students' need and to investigate individual and social factors facilitating second language learning in Chinese students in order to provide recommendations for universities.

Because of time limitations and an overabundance of information, most researchers have focused on individual factors such as belief, learning strategy use, attitude, and motivation to analyze language learning efficiency (Nikitina & Furuoka, 2006; Sakui & Gaies, 1999; Shaaban & Ghaith, 2000; Suwanarak, 2012; Yang, 1999). This study aimed to examine students' need and to understand both individual and social factors influences on Chinese students' second language learning. This information, in turn, can be used to provide recommendations to universities where Chinese students attend. The following questions were investigated: (1) What are language strategies that Chinese students employ in second language learning? (2) What are Chinese students' motivation and attitude towards second language learning? and (3) What do Chinese students think about social factors influencing second language learning? It is crucial to learn from numerous aspects, and to get some feedbacks from the students. Also, such information can be used to improve teaching instruction, to design more effective pedagogical strategies, and to guide struggling Chinese students to overcome their language learning obstacles.

## **LITERATURE REVIEW**

In China, as families' financial situations improved, a trend to send children abroad to study began. Studying abroad was viewed as a good opportunity for the children (Songsathaphorn, Chen, & Ruangkanjanases, 2014). This trend has led Chinese students to study in international programs where English plays an important role in their studies and daily lives (Lou, 2016). Although they have been studying English since they were in primary school, many Chinese students still struggle with it. Thus, both individual and social factors which influence students' English learning should be considered to facilitate them to improve their English proficiency (Sang, 2017).

Reviewing the related literature, the researchers believe that it is crucial to investigate both factors to gain insights so that proper strategies can be devised to assist Chinese students in their English learning.

## **Individual Factors**

Individual factors that influence learners' English proficiency include age, aptitude, intelligence, language learning strategy use, motivation, and attitude toward second language learning (Ellis, 1986). However, this study focused on only two factors: language learning strategy use and motivation.

### **Language Learning Strategy Use**

Prominent researchers defined language learning strategies as “techniques that individuals use to help them learn second language material and improve their skills” (Gardner, Tremblay, & Masgoret, 1997, p. 346). Strategy Inventory for Language Learning (SILL), developed by Oxford and Burry-Stock (1995), was utilized to examine six types of learning strategies, as follows:

- (1) Memory strategies, e.g. grouping, imagery, rhyming, and structured reviewing
- (2) Cognitive strategies, e.g. reasoning, analyzing, summarizing (all reflective of deep processing), and general practicing
- (3) Compensation strategies, e.g. guessing meanings from the context while reading and listening, and using synonyms and gestures to convey meaning when the precise expression is not known
- (4) Metacognitive strategies, e.g. paying attention, consciously searching for practice opportunities, planning for language tasks, self-evaluating one's progress, and monitoring errors
- (5) Affective (emotional, motivation-related) strategies, e.g. anxiety reduction, self-encouragement, and self-reward
- (6) Social strategies, e.g. asking questions, cooperating with native speakers of the language, and becoming culturally aware (Oxford & Burry-Stock, 1995, p.5).

Students' language proficiency has been studied together with their language learning strategy use among Chinese students (Anugakul & Yordchim, 2014; Hong-Nam & Leavell, 2006; Lai, 2009; Nisbet, Tindall, & Beach, 2005; Zhou, 2010). To begin with, Nisbet et al. (2005) identified Chinese university students' language learning strategy preferences and English proficiency by utilizing the Strategy Inventory for Language Learning (SILL) to compare with their ITP-TOEFL scores (an institutional version). The results revealed remarkable correlation between the six types of learning strategies and the total ITP-TOEFL score. Only meta-cognitive strategies were significantly related to the score. Similarly, Hong-Nam and Leavell (2006) conducted a study to examine the language learning strategy use of 55 ESL students with different cultural and linguistic backgrounds. These participants enrolled in a college's Intensive English Program (IEP). Using the Strategy Inventory for Language Learning (SILL), Hong-Nam and Leavell also investigated the relationship between the use of language learning strategies and second language proficiency. They found that the most frequently used strategies were “meta-cognitive,” while the least used ones were “memory” and “affective.” Likewise, metacognitive and cognitive strategies are preferable used by EFL learners in Taiwan and the least frequently used was affective strategies. Students who use more strat-

egies are more proficient. Students who are less proficient preferred to use social and memory strategies (Lai, 2009).

Similar to Zhou (2010), Anugkakul and Yordchim (2014) explored language learning strategies used by undergraduate Chinese students. They reported that compensation strategies were used the most. Students explained that they attempted to understand English by guessing the meaning of words from the context. They used this strategy because it allowed them to learn a new language without having perfect knowledge. While Chinese university students rarely used memory strategies for learning methods (Anugkakul & Yordchim, 2014), social strategies were the least used methods by Chinese students in senior high school (Zhou, 2010).

The above information implies that selection of strategies varies based on age and education level. The more strategies students use, the better scores they get (Zhao, 2009). For other foreign students, e.g. Korean students, who study English as a second language, a research study suggested that compensation strategies could increase their English proficiency (Magno, 2010).

### **Motivation and Attitude towards Second Language Learning**

While learning strategies are important, many theorists and researchers also emphasized the roles of attitudes and motivation and their influence on language learning (Gonzalez, 2010; Lightbrown & Spada, 2001; Li, 2006; Liu, 2007; Muthanna & Miao, 2015; Ushioda, 2008). Two major categories of motivation are intrinsic motivation and extrinsic motivation. Intrinsic motivation is defined as “doing something as an end itself, for its own self-sustaining pleasurable rewards of enjoyment, interest, challenge, or skill and knowledge development” (Ushioda, 2008, p. 21). In contrast, extrinsic motivation is defined as “doing something as a means to some separable income, such as gaining a qualification, getting a job, pleasing the teacher, or avoid punishment” (Ushioda, 2008, p. 21).

Liu (2007) examined Chinese university students’ motivation and attitudes towards English learning and the link between these two variables with the students’ English proficiency. He asserted that the more positive attitudes toward learning English the students had, the higher their motivation to study was generated. In addition, research found that motivation in second language learning had been influenced by social attitude. Chinese students who had positive attitude were willing to socialize with the British; they were motivated to learn. For those who have negative attitude, it is in a contradiction (Li, 2006). Also, students showed their positive attitude towards English-medium instruction strategy used in Chinese programs. Researches suggested that it is beneficial because it can encourage international students to come and study and it could promote ambitions of local students (Muthanna & Miao, 2015). There was a positive correlation between the learners’ attitudes and motivation and their English proficiency. Positive motivation could lead to successful language learning (Gonzalez, 2010). Consequently, teachers should pay attention to students’ motivation and encourage such motivation in the classroom (Lightbrown & Spada, 2001).

In addition to individual factors, social factors are equally important and should be investigated.

## **Social Factors**

This section focuses on three social factors consisting of (1) family educational backgrounds, (2) school quality, and (3) exposure to the English language.

### **Family Educational Backgrounds**

A few studies have claimed relationship between the improvement of English language proficiency and the parents' education (Carhill, Carola, & Paez, 2008; Goldenberg, Rueda, & August, 2006; Dickinson & Tabors, 2001). Carhill, et al. conducted an interview to explore the degree of maternal education and the language preference the parents use at home. The findings showed that parents' educational attainment is a significant predictor for the development of students' English proficiency. Children who have either well-educated fathers or mothers can be more successful in academic education than those who have lower educated parents (Carhill, Carola, & Paez, 2008). Likewise, Goldenberg, et al. (2006) conducted a research study on the influences of socio-cultural factors on the language literacy of minority group children and adolescents. They found that children whose parents have higher educational levels have more opportunity to develop English language skills than others. In particular, mothers who are well-educated can teach their children to read valued books and write for literacy development. Moreover, Dickinson and Tabors (2001) reported that the higher education the parents acquire, the better they can provide home environments similar to the language environments at schools. Such supportive environment enabled children to improve their English proficiency substantially.

### **School Quality**

Apart from parents' education, school quality is one of the primary factors that could help develop students' abilities to achieve academic success (Heyneman & Loxley, 1983). Fuller's (1987) model reviewed the four main school factors: material inputs, teacher quality, classroom organization, and school management.

Jamison (1982) suggested that schools should reduce class size from 40 to 10 students per teacher. Moreover, a few researchers stated that instructional materials and school libraries were strongly related to pupil achievements (Heyneman & Jamison, 1980; Schiefelbein & Farrell, 1973).

Other important school factors are teacher quality, classroom organization, and school management. Teachers' education has dramatically affected Thai primary school students, but the increasing period of study does not raise students' achievements (Fuller & Chantavanich, 1976). A study showed that the number of hours of instruction influences academic outcomes, and it should not exceed 120 minutes to get students to engage in academic instruction (Karweit, 1985). The last factor is school management. The school rules may vary from one school to another, depending on what schools want to achieve. Heyneman and Loxley (1983) opined that the more teachers attended training courses, the more teaching experience they had, the better the students' achievements became.

### **Exposure to English Language**

English exposure also has a significant relationship with English proficiency outcomes. According to Suwanarak (2012), many students believed that gaining insights into native English speakers' cultures was crucial for communicating with other English speakers. Furthermore, this finding pointed out that learning about English-speaking cultures is one of the most popular strategies of English language learning students. Some students learn English language by watching English TV programs and movies with English captions or soundtracks (Donley, 2000).

In addition, Thongsongsee's study (1998) indicated that cultural and linguistic difficulties were factors that affect students' English proficiency achievement. If English language learners understand insights into western cultures and norms, they could communicate effectively. Likewise, Songsangkaew (2003) reported that although many Thai students achieve proficiency levels on the Test of English as a Foreign Language (TOEFL), they still struggle with some cultural difficulties, different linguistics, and styles of learning. Furthermore, another study interviewed international students and reported that the barriers of western culture and poor English proficiency seriously impinged upon their learning (Liton, 2016).

The review of individual and social factors affecting language learning efficiency used to form interview questions and it was used when analyzing the data gathering from students as well as discussion part.

### **RESEARCH METHODOLOGY**

This study aimed to collect information about individual and social factors facilitating Chinese students' English learning. Since there might be a difficulty understanding students' ideas, the researchers decided to conduct exploratory research using purposive sampling to conduct an in-dept interviews with 13 students to gain insight into what components influence their second language learning.

The criteria for recruiting participants was Chinese students studying in undergraduate programs in an international university and they were studying College English I which was a prerequisite course of College English II and III. The participants were selected from this course so that the findings and recommendation could be applied for the following courses. Both male and female participants were included in this study.

Twenty-eight questions based on the theory studied in the literature review were created, and they were developed to serve the objectives of this study. The questions were designed as open-ended questions in order to gain knowledge about obstacles students face. Also, we wanted to receive as many opinions and suggestions as we could. The questions were divided into two parts. Part One discussed individual factors and Part Two involved social factors. For the individual factors, questions covered language strategies, motivation, and attitude. These questions were modified from Makowy's (2009). The questions in this part can point to findings about the strategies which were used most by Chinese students. Also, the reason why they study English was discovered. Regarding social factors, questions including family edu-

cational background, school quality, and exposure to the English language were modified from Gonzalez's (2010). The influence of parents' educational backgrounds as well as lecturers' pedagogical approaches were identified. Students' satisfaction towards English classes at the university was measured in this section.

To collect data, thirteen interviews were recorded. The recordings and notes were then transcribed and analyzed. Both individual factors—e.g. learning strategies use, motivation, and attitude towards English learning—and social factors—e.g. family background, school quality, and exposure to English—were analyzed.

## **FINDINGS**

### **RQ1: What are language strategies that Chinese students employ in second language learning?**

The findings in table 1 showed that most Chinese students used more than one strategy to learn English, but three of them used only one strategy. The most frequently used strategy is compensation, for example, guessing meanings from the context while reading and listening, and using synonyms and gestures to convey meaning when the precise expression is not known. Also, Chinese students frequently used metacognitive strategies to study English e.g. paying attention, consciously searching for practice opportunities, planning for language tasks, self-evaluating one's progress, and monitoring errors. In contrast, the least used strategy is affective such as anxiety reduction, self-encouragement, and self-reward.

**Table 1.**

*Individual Factors of English Language Learning.*

Recording Code	English Learning strategies						Motivation		Attitude Towards English	English Learning Difficulty that Chinese students face				
	Memory	Cognitive	Compensation	Metacognitive	Affective	Social	Intrinsic	Extrinsic		Memorizing vocabulary	speaking and pronunciation	grammar and writing	Listening	reading and summarizing
Chi 1									Good					
Chi 2									Important					
Chi 3									Interesting					
Chi 4									Important					
Chi 5									Important					
Chi 6									Helpful					
Chi 7									Helpful					
Chi 8									Important					
Chi 9									Helpful					
Chi 10									Easy					
Chi 11									Easy					
Chi 12									Important					
Chi 13									Helpful					

**RQ2: What are Chinese students' motivation and attitude towards second language learning?**

According to table 1, all of them had extrinsic motivation because their aim of learning English was to get better jobs in the future. Furthermore, two of them had both intrinsic and extrinsic motivation because they were studying not only to get a good job but also to improve their English skills to connect with others. In addition, all Chinese students reported good attitudes towards English. They thought learning English was important for their careers and helpful for general living. They also reported that it was interesting to learn about a new culture and connect to the world. However, they faced some difficulties, e.g. memorizing vocabulary, speaking and pronunciation, grammar and writing, listening, reading, and summarizing. Memorizing vocabulary was the most serious difficulty.

**RQ3: What did Chinese students think about social factors for second language learning?**

According to the reported family background information (see Table 2), all parents spoke Chinese when students were at home. Even though most parents got bachelor's degrees, they could not speak English. Thus, they sent their children to school to study English, and two of them created environments that could create English learning, like turning on English radio programs and helping their children review lessons.

**Table 2.**

*Family Background Influence on Language Learning.*

<b>Family Background</b>			
<b>Language spoken at home</b>	Chinese	13	100%
	English	0	0%
<b>Parents' English speaking ability</b>	Yes	1	8%
	No	10	77%
	a little	2	15%
<b>Parents' Education</b>	High school	2	15%
	Bachelor's	11	85%
<b>How parents help them learn English</b>	Sending to school	11	84%
	Turning on English radio	1	8%
	Reviewing lessons	1	8%

Another factor that could help students improve their English skills was school quality. This factor comprises teachers, class sizes, class times, and school facilities (see table 3). First, the researches asked if students were satisfied with their English teachers or not. All were satisfied with their foreign English teachers. Second, students were asked whether they preferred foreign English teachers or Chinese English teachers. More than half of them preferred English teachers who could speak Chinese because they felt more comfortable with communicating, and students could ask teachers in Chinese if they did not understand the lessons. Teacher could explain the issue in Chinese, so students would understand it clearly. On the other hand, 40% of the participants thought that foreign teachers could help them to improve English skills faster and better.

Also, Chinese students could communicate with their foreign teachers in English, and teachers could correct their students' mistakes. Concurrently, students could learn about other cultures as well. Third, 70% of the participants preferred activity-based teaching methods, while the others thought both lectures and activities should be combined. Moreover, students were asked about their satisfaction with classes that had 30 students per class. Eighty-five percent of the participants were satisfied, but two of them thought there were too many students, and teachers could not take care of all of them. Thus, most of them thought that a suitable class size was less than 20 students. Thirty-one per cent of participants thought that 20-30 students per class was reasonable. For English class time per week, it depended on the subjects, and it varied from 4-12 hours a week. The lower level a course taught; the more hours students needed to study. Most participants were satisfied with class times. Two of them thought that some classes were too long, and some were too short. Finally, facilities were one of the factors that could help students improve their English skills. The library, the Center of Academic Excellence (CAE), and media in classrooms were provided to facilitate their learning. Seventy per cent of participants thought the library was too small and did not have enough books. The CAE was found very helpful for students because it provided an English coach or teacher to help them learn. However, some of them thought that media equipment, e.g. projectors or amplifiers, in classrooms needed improvement.

**Table 3.**

*School Quality Influencing on Language Learning.*

School Quality				School Quality			
<b>Students' satisfaction on English teacher</b>				<b>English class time per week</b>			
	Yes	13	100%		4 hours	6	46%
	No	0	0%		8 hours	1	8%
					12 hours	6	46%
<b>Preference of English Teacher</b>	Chinese	8	62%	<b>Students' satisfaction on class time</b>			
	Foreinger	5	38%				
<b>Preference of Teaching method</b>	Lecture base	0	0%		Yes	11	85%
	Activity base	9	69%		No	2	15%
	Lecture and Activity	4	31%	<b>Students' satisfaction on facilities</b>			
<b>Students' satisfaction on class size</b>				<b>Library</b>	Yes	4	31%
	Yes	11	85%		No	9	69%
	No	2	15%		N/A	0	0%
<b>Preference of Class size</b>	< 10 students	2	15%	<b>CAE</b>	Yes	8	62%
	10-20 students	7	54%		No	2	15%
	20-30 students	4	31%		N/A	3	23%
				<b>Media</b>	Yes	6	46%
					No	5	38%
					N/A	2	15%

Finally, exposure to English was one of the most important factors that students could use to develop their English skills. The findings in Table 4 showed that all participants had been studying English for years before coming to Thailand to study in an international program. Sixty-nine per cent of them had been staying in Thailand for 0-2 years, but others had been living here for 3-5 years. Moreover, most of them liked watching English movies and listening to English music almost every day. Only one participant liked reading English books once a month. All participants thought that studying in an international environment helped them improve their English skills and learn faster. Approximately, half of them took only 3 months to 1 year to speak English with confidence. The others took 1-2 years. However, all were more confident speaking English after studying in an international program, and they thought that the program helped them to improve their skills a lot. Studying with foreigners leads to understanding other cultures; thus, they did not have any difficulties understanding other cultures. Conversely, they all faced language difficulties when communicating with others. Forty-one per cent of participants sometimes did not understand what other people were saying, whereas 47% of participants thought people did not understand what they were trying to say. The rest needed time to think before speaking.

**Table 4.**

*Exposure to English Influencing on Language Learning.*

Exposure to English Language			Exposure to English Language		
<b>How long have you studied English?</b>			<b>How does international environment at university help you to improve English skill?</b>		
1-5 years	5	38%	I need to communicate with others in English	11	85%
6-10 years	3	23%	I learn faster	3	23%
11-15 years	3	23%			
> 15 years	2	15%			
<b>How long have you stayed in Thailand?</b>			<b>How long does it take to make you be confident to communicate with others in English?</b>		
0-2 years	9	69%	< 1 year	7	54%
3-5 years	4	31%	1-2 years	4	31%
			3-4 years	2	15%
<b>Activities in English</b>			<b>Do you have more confident after studying in an international program?</b>		
Watching English movie	8	47%	Yes	13	100%
Listening to English music	7	41%	No	0	0%
Reading English book	1	6%			
All activities in Chinese only	1	6%	<b>Does your English skills improve after studying in an international program?</b>		
			Yes	13	100%
			No	0	0%
<b>Langauge Difficulty</b>			<b>Cultural difficulty</b>		
I don't understand what people are saying	7	41%	Yes	0	0%
People don't understand what I'm trying to say	8	47%	No	13	100%
I have to think for a long time before speaking	2	12%			

## **DISCUSSION AND CONCLUSION**

According to the findings, Chinese students frequently used compensation and metacognitive strategies to study English. Such results accord with Nisbet et al. (2005), who studied Chinese university students' language learning strategy preferences and English proficiency and found that only meta-cognitive strategies were significantly related to the Chinese students' ITP-TOEFL scores. Further, the current study conforms with Anugkakul and Yordchim's (2014) research. In their study, Chinese students at the undergraduate level used compensation strategies the most. Other studies also showed that the most frequently used were meta-cognitive strategies (Hong-Nam & Leavell, 2006; Salahshour, Sharifi, & Salahshour, 2013). However, the present study found that the Chinese students' strategies selection depended on their interests and preferences. The participants also had positive attitudes toward studying English. Most of the students in the current study were influenced by extrinsic motivation because they needed to improve their English skills for their future careers. Speaking with foreign friends was the most useful method of the Chinese students' English practices.

In addition, the current study suggested that small class size was an advantage for students. This result confirmed Jamison's (1982) study that schools should reduce class size from 40 to 10 students per teacher. When there were fewer students in class, they were more confident to share their ideas, and they could ask when they have questions. Simultaneously, teachers could promptly respond to their questions. Teachers had a lot of time to explain. Moreover, the students thought that some facilities, e.g. library and media, required improvements. Similarly, a few researchers stated that instructional materials and school libraries were strongly related to pupil achievements (Heyneman & Jamison, 1980; Schiefelbein & Farrell, 1973).

The findings also showed that international environments shorten the period of learning and encourage students to be more confident to speak English. Still, they struggled with language difficulties. Thongsongsee's study (1998) documented that cultural and linguistic difficulties were factors that hindered students' English proficiency achievement. If English language learners garner insights into western cultures and norms, they will be able to improve themselves through vast varieties of instructional styles. Thus, the findings of the study showed that individual and social factors had an enormous influence on Chinese students' English proficiency.

### **Limitations and Recommendations for Further Research**

The limitation of the study was a small number of participants. The study should have included interviews from more than 30 participants. However, this was an exploratory study to gain insight into the elements that can help Chinese students improve their English proficiency. Further research should be conducted using quantitative data to investigate the relationship between the individual and social factors. Also, the number of participants should be increased and should be from numerous universities. Moreover, further research can focus on specific learning skills, especially the poor ones, e.g. speaking, listening, reading, and writing. It can also focus on specific factors, e.g. motivation, school quality, and international environments. According to the current study, games and activities are students' favorite learning methods. Further research then can examine what games and activities best facilitate Chinese

students' learning. This kind of study will help improve teaching quality and develop students' skills at the same time.

### **RECOMMENDATIONS FOR UNIVERSITY AND STUDENTS**

Since the present study found that studying in an international environment provided a chance for students to practice their English with friends and made them more confident to speak English, we could encourage native speaking students to establish an English club to help non-native speaking students who studied English as a second or foreign language (ESL or EFL). Joining the club, both ESL and EFL students can make friends and simultaneously practice their English. Teachers can observe successful language students in order to find their learning strategies. Such observation can help teachers to apply more efficient pedagogical approaches to less successful students in the future.

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**THE RELATIONSHIP BETWEEN  
CULTURAL INTELLIGENCE AND JOB PERFORMANCE:  
THE MEDIATING EFFECTS OF CULTURE SHOCK AND  
CULTURAL ADJUSTMENT**

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**ABSTRACT**

In recent years, many expatriates have been relocating to work and live in Thailand because of globalization and a distributed workforce. To work efficiently, an ability to adjust themselves in diverse culture is crucial. Many factors affect how well they perform in their job, so this study focuses on how cultural intelligence (CQ), cultural adjustment, and culture shock affect their job performance. Also, this study aims to investigate cultural adjustment and culture shock as mediator on the relationship between CQ and job performance. A self-evaluated questionnaire online survey, with a return rate 71%, was distributed and collected from 92 foreign faculty and staffs. In data analysis, the bivariate Pearson and Ordinary Least Squares regression (OLS) was computed by IBM SPSS Statistics. The results showed that cultural intelligence had a positive effect on job performance and on cultural adjustment. However, cultural intelligence negatively affected culture shock. Also, culture shock reportedly had a negative affected on job performance, whereas cultural adjustment was positively related job performance. Finally, cultural adjustment and culture shock fully mediated the positive effect of cultural intelligence on job performance. The revealed direction of each relationship was consistent with that of previous studies. For future research, data from a larger group randomly selected are encouraged so that the results should be accurate and more reliable.

**KEY WORDS:** Cultural intelligence (CQ), cultural adjustment, culture shock,  
job performance

**INTRODUCTION**

Due to globalization and economic community, many people have come to work and live in Thailand. Also, many international and multinational companies have been operating in Thailand. Some organizations include many nationalities in a team or department that requires them to cooperate with diversity. This is a challenging management for supervisors to deal with their foreign subordinates who are new in the host country. Managers need to make sure

that their subordinates understand new culture and know how to behave in appropriate ways. Many companies may face with cross-cultural misunderstandings which lead to many consequences such as misbehavior, poor performance, and turnover rate. It is necessary to reduce these kinds of problems. Expatriates should have ability to cognize different culture and adjust themselves. When they understand other cultures, they can develop good relationship with their colleagues. Many studies found that the more people understand new culture, the more they work well in organization (Ang, Van Dyne, & Koh, 2006; Chen, Lin, & Saeangpattanakul, 2011; Earley & Ang, 2003; Ng & Earley 2006). When they understand the culture, value, norm or economic and sometimes they have motivation to open to new culture, they can adjust themselves to settle in new environment and they also know how to behave properly, so they can work better.

However, knowing and understanding cross-culture is not only one factor that has an impact on job performance. There are various factors affecting on how people perform. In this study it will focus not only on the relationship between cultural intelligence and job performance, but it will focus on culture shock and cultural adjustment. According to previous studies, none of them investigated culture shock and cultural adjustment as mediator. Few study relationships between cultural intelligence and performance mediating by cultural adjustment (Chen, Lin & Saeangpattanakul, 2011; Kim, 2008; Kraimer & Wayne, 2004). Sometimes people have a high level of CQ, but they could not adapt themselves well. It may lead to poor performance. Moreover, little research focuses on relationship between cultural intelligence and performance mediating by culture shock (Hisam, 1997; Mumford, 1998). The researchers found that culture shock can cause some stress, bad attitude, improper behavior which may affect performance. Consequently, each person has different level of CQ that can adjust effectively to new cultural workplace. A study of Kumar and Subramanian (2008) shows that cultural shock and adaption cause many expatriates to suffer such as being uncomfortable, frustrated, confused and stressful.

In order to fill the gap, the aim of this research is to investigate the correlation between CQ and job performance with cultural adjustment and culture shock as mediators. This research is just exploratory research to see this kind of relationship among foreign lecturers in a specific international university and to test whether culture adjustment and cultural shock has an impact on job performance or not.

## **LITERATURE REVIEW**

### **Cultural Intelligence and Job Performance**

Cultural intelligence, or CQ, is referred to “a person's capability to adapt effectively to new cultural contexts” and “a form of situated intelligence where intelligently adaptive behaviors are culturally bound to the values and beliefs of a given society or culture” (Earley, 2002; Earley & Ang, 2003). Previous research (Ang et al., 2006; Earley & Ang, 2003; Ng and Earley 2006) has indicated that CQ has been increasingly playing a significant role to measure an individual's intelligent adaptability to new various multicultural situations. A framework for a set of CQ was utilized for the measurement.

There are four main components which are cognitive CQ, meta-cognitive CQ, motivational CQ, and behavioral CQ (Earley & Ang, 2003). First, cognitive CQ is referred to cultural conceptualized knowledge of individuals in different cultures in terms of social norms, economic contexts, laws, rules and regulations acquired from personal experience and educational background (Earley & Ang, 2003; Chen, Lin & Saeangpattanakul, 2011). Second, metacognitive CQ is defined as an individual's ability of acquiring and understanding cultural knowledge to plan, monitor and revise mental process to be appropriate in cross-cultural interactions (Ang & Van Dyne, 2008). Another element is motivational CQ referred to an individual's intrinsic interests and confidence for intercultural adaptation (Ang & Van Dyne, 2008). Consequently, a person who has high motivational CQ will possibly deal with a new challenging environment greatly and better adaptability than who does not (Earley & Peterson 2004). Finally, behavioral CQ is referred to the reflection of individual's capability to interact verbally and non-verbally in appropriate ways in cultural diversity (Ang & Van Dyne, 2008) found that behavioral CQ is important and it can be observed and provide evidence clearly in intercultural interactions. Overall, CQ elements are proposed as an influence on capability how people recognize cultural background knowledge to cope with, adapt and behave effectively in cross-cultural contexts.

Foreign employees should realize what their supervisor expect on their current assignment and they should know how to achieve in the expectations. A research showed that when foreign employees do not understand national culture and cultural differences, their job performance will be poorly since they are not aware that cultural intelligence plays an important role to fulfill those expectations. Also, a study of Filipinos workers in Taiwan conducted by Chen, Lin and Saeangpattanakul (2011) confirmed there was a positive correlation between CQ and job performance which means the higher CQ foreign laborer have, the better job performance they perform in intercultural contexts. Regarding previous statements, four components of CQ is positively affected on job performance.

Hypothesis 1: Cultural intelligence has a positive effect on job performance.

### **Cultural Intelligence and Cultural Adjustment**

When people work and live in another country or new different cultures, they may feel uncomfortable and stressful because of confusing with host nationals' norms and behaviors. Many studies on cross-cultural experiences show that cultural adjustment is one of the most important factors that assist people to survive in new environment (Bhaskar-Shrinivas et al., 2005). Cultural adjustment is "a process an individual has to go through to be able to work effectively and live comfortably in a place that is new and unfamiliar to them (Ang et al., 2007)." Learning and adapting oneself in a new culture can be required and it will be challenging as well as uncomfortable.

Research found that when people understand rules or expectations of different cultures, they can behave and interact in acceptable ways. This will help them improve their cultural adjustment when they communicate with others in different cultural contexts (Huff, Song, & Gresch, 2014). Consequently, to succeed in cultural adjustment, people need to understand and cognize a culture as well as to have a motivation to interact with people in new cultures.

Also, they should know how to behave and act appropriately in different cultural contexts. Regarding previous statements, there is a positive relationship between CQ and cultural adjustment

Hypothesis 2: Cultural intelligence has a positive effect on cultural adjustment.

### **Cultural Intelligence and Culture Shock**

Culture shock is defined as “the anxiety and feelings of disorientation and uncertainty that a person feels when he/she has to function within a different and unknown culture” (Chen, Lin & Saeangpattanakul, 2011). Culture shock will be a main issue when a person need to relocate to unfamiliar environment (Black & Gregersen, 1991a). It may disrupt people’s feeling and it evokes in an attempt to reduce uncertain occurrences in new environment. This will be especially required to change when they are employed. In addition, Black and Mendenhall (1990) stated that people who have high cognitive CQ will get less suffering from culture shock because they can apply their cognitive skill to understand different culture and it assists to reduce uncertainty in intercultural settings. Furthermore, Furnham and Bochner (1986, as cited in Chen, Lin & Saeangpattanakul, 2011) indicated that people who have high behavioral CQ tend to be accepted and gained some support by having a good relationship with host national people. It will probably help resolve culture shock. Based on previous studies, the following hypothesis is proposed.

Hypothesis 3: Cultural intelligence has a negative effect on culture shock.

### **Culture Shock and Job Performance**

Few studies conduct research about relationship between culture shock and job performance. Chen, Lin and Saeangpattanakul (2011) demonstrated culture shock was negatively related to job performance. People who have high level of cultural shock may work poorly. Also, researchers found shock and intercultural adaptation are main factors that effect on job performance. High level of culture shock leads to bad experience on foreign workers and relates to poor performance and turnover intention (Guy & Patton, 1996). Therefore, people who relocate to new environment should understand what consequences of culture shock and cross-cultural adaptation will effect on their performance. In addition, culture shock is also negatively related to satisfaction and performance when people have different perspectives. Consequently, there is a negative relationship between culture shock and job performance.

Hypothesis 4: Culture shock has a negative effect on job performance.

### **Cultural Adjustment and Job Performance**

To accomplish their job when expatriates work in new culture, they should have an ability to adapt themselves to work and live effectively in different culture. The linkage between cultural adaptation and job performance is unclear and sometimes it is difficult to understand (Tucker, Bonial, & Lahti, 2004; Thomas & Lazarova, 2006). For instance, a study demonstrates there is a positive relationship between cultural adjustment and job performance, but there is not any support for spousal adaptation on job performance (Kraimer, Wayne, & Jaworski, 2001). Thus, the researchers recommend that it needs to be investigated more to confirm the relationship. However, a few studies found a significantly positive relationship between cultural adjustment and job performance (Shay & Baack, 2006; Shaffer & Harrison, 2001). This means that expatriates who can adjust themselves to settle in new different cultural settings will perform well in their tasks.

Hypothesis 5: Cultural adjustment has a positive effect on job performance.

### **Cultural Intelligence, Cultural Adjustment and Job Performance**

Previous studies that stated above have concluded feeling uncomfortable and cannot adjust themselves well may lead to perform poorly in their task. There is little research considering cultural adjustment as mediating effect on CQ and job performance (Chen, Lin & Saeangpattanakul, 2011; Kim, 2008; Kraimer & Wayne, 2004). Chen, Lin and Saeangpattanakul (2011) found CQ is positively related to job performance with cultural adjustment mediating the relationship. Consequently, this research is supposed to prove that positive impact on CQ and cultural adjustment are main factors related to job performance. Though people might have high cultural competence, they may perform poorly and tend to suffer if they cannot adapt themselves to new cultures. Therefore, this research proposes the following hypothesis.

Hypothesis 6: Cultural adjustment mediates the positive effect of cultural intelligence on job performance.

### **Cultural Intelligence, Cultural Shock and Job Performance**

Previous study showed that an ability of cross-cultural knowledge is a solution to reduce culture shock (Winkelman, 1994; Copeland & Griggs, 1985). When people open to new environment and be flexible to adjust themselves to enjoy host national culture, they will be aware and understand how to behave in a proper way in different cultural settings. It will assist them to overcome culture shock and uncomfortable feelings such as loneliness, frustration and isolation (Black, 1990) Furthermore, the main factor that can help them to overcome culture shock is to develop relationship with people in host country and it also help succeed in cultural adjustment (Mendenhall & Oddou, 1985). Regarding the previous studies, there is an empirical evidence showing that CQ has an effect on culture shock. People who have high level of CQ tend to get less suffering of culture shock and it leads to working better on their assignments. Culture shock can be a main factor that cause stress and uncertain feelings and has an impact on behaving inappropriately and bad attitude leading to less job satisfaction and

poor job performance (Hisam, 1997; Mumford, 1998). Therefore, culture shock is proposed as a mediator on CQ and job performance.

Hypothesis 7: Culture shock mediates the relationship between cultural intelligence and job performance.

## METHODS

### Sample and Data Collection

This study emphasizes on the samples of foreign lecturers and staffs who are currently working and living in Bangkok. Nonprobability sampling was applied using convenient sampling technique. Questionnaires was distributed in English version since most lecturers have a great English proficiency because they all teach in international program. The online self-administered questionnaire was distributed through official e-mail which 130 faculty and staffswere invited to participate in this study. However, 92 completely filled online-surveys were collected, so a response rate for this research is 71%. Demographic data and some characteristics of the participants is shown in Table 1.

**Table 1.**

*Descriptive Statistics of the Samples.*

<b>Demographic Factor</b>	<b>Descriptive Statistics</b>
<b>Age</b>	Mean: 37.40 Standard deviation: 6.359
<b>Gender</b>	Male: 65 (70.7%) Female: 27 (29.3%)
<b>Marital Status</b>	Married: 31 (33.7%) Single: 61 (66.3%)
<b>Education Level</b>	Bachelor's degree: 25 (27.2%) Master's degree: 52 (56.5%) Doctoral Degree: 15 (16.3%)
<b>Work Experience</b>	Mean: 12.15 Standard deviation: 6.971
<b>Overseas Experience</b>	Mean: 10.55 Standard deviation: 5.424
<b>English Proficiency</b>	Not at all: 0 (0%) Poor: 0 (0%) Average: 0 (0%) Good: 15 (16.3%) Excellence: 77 (83.7%)
<b>Thai Proficiency</b>	Not at all: 27 (29.3%) Poor: 45 (48.9%) Average: 20 (21.7%) Good: 0 (0%) Excellence: 0 (0%)

## **Measures**

Four main variables were CQ, cultural adjustment, cultural shock and job performance. They were measured as shown below.

### **Cultural intelligence (CQ)**

Ang et al. (2007) developed CQ scale which was comprised of four dimensions.

Participants were asked to rate their CQ on 20 items using a five-point Likert scale (1 = strongly disagree; 5 = strongly agree). An individual who has high score means that he/she has an ability to understand and cognize cross-cultural settings and adapt to new different culture so that he/she can interact with host national people in proper and effective ways.

### **Cultural Adjustment**

A measurement of intercultural adjustment was developed by Black and Stephens (1989). There were 14 items including 7 items for general adjustment, 4 items for interaction adjustment, and 3 items for work adjustment. Participants were asked to rate their cultural adjustment on a five-point Likert scale (1 = very poor; 5 = excellent).

### **Culture Shock**

Culture shock was measured by utilizing 12 items developed by Mumford (1998). Questions were asked including 7 questions of core culture shock and the other 5 questions were asked about interpersonal stress; for example, "Do you feel anxious or awkward when meeting local people?" The participants were asked to rate on a five-point Likert scale (1 = never; 5 = always).

### **Job Performance**

Job performance was measured by using a 3-item scale based on Charoensukmongkol (2015). The participants were asked to rate their performance using a five-point Likert scale (1 = strongly disagree; 5 = strongly agree). Moreover, to reduce self-deception, researcher added one item asking the scores of their performance year 2018 rated by their supervisor on a five-point scales (1 = need to improve; 5 = beyond expectation)

### **Control variables**

Previous research showed that gender, age (Hechanova et al., 2003; Sam, 1998), overseas experience and language proficiency (Bhaskar-Shrinivas et al., 2005) have probably effect on job performance Also, education level, work experience were included as control variables. Moreover, the participants were ask to rate their English and Thai proficiency on a 5-point scales (1 = not at all; 5 = excellence)

## **Data Analysis**

The statistical technique including descriptive statistic, the bivariate Pearson correlation to produce a sample correlation coefficient and Ordinary Least Squares regression (OLS) was computed to analyze the data and were computed by IBM SPSS Statistics.

## **RESULTS**

There are a few processes before analyzing the data. First, in order to test reliability of each concept, Cronbach's alpha was used to evaluate scale items. As shown in Table 2, the 4 concepts have Cronbach's alpha ( $\alpha$ ) range from 0.693 to 0.929. Nunnally (1967) recommended the value above 0.7 is satisfactory. Next, in order to transform scores of variables, each item in the same concept was compute a summated scale so that it can be used in the linear regression analysis.

**Table 2.**

*Results from Reliability Test.*

<b>Variables</b>	Cultural Intelligence	Cultural Adjustment	Culture Shock	Job Performance
<b>Cronbach alphas (<math>\alpha</math>)</b>	0.925	0.900	0.693	0.929

Lastly, in order to investigate correlations among pairs of variables, the bivariate Pearson correlation was used to measure, and it is shown in Table 3.

Hypothesis 1 predicted a positive relationship between cultural intelligence and job performance. The findings show in Table 3 analyzed by Pearson correlation to estimate the relationship between variables, and the correlation coefficient is 0.586 ( $p=0.000$ ) that represents a positive correlation between them, and it is statistically significant. Additionally, we added all control variables: gender, marital status, age, educational level, work experience, overseas experience, English proficiency, and Thai proficiency. The regression model was significant and CQ had a positive and statically significant effect on performance ( $R^2 = 0.672$ ;  $\beta=0.844$ ;  $p=0.000$ ). Consequently, these results were supported Hypothesis 1.

Hypothesis 2 predicted a positive relationship between cultural intelligence and cultural adjustment. Table 3 and 4 demonstrated the results of Hypothesis 2. Analyzed by Pearson correlation to estimate the relationship between variables, the correlation coefficient is 0.280 ( $p=0.007$ ) that represents a positive correlation between them, and it is significant. Additionally, the result estimated by a multiple regression shows that the relationship between these two variables and all control variables were included in the analysis is positive and it is statistically significant ( $R^2 = 0.610$ ,  $\beta=0.697$ ;  $p=0.000$ ). Consequently, these results were supported Hypothesis 2.

**Table 3.**

*Correlation among Variables.*

No.		2	3	4	5	6	7	8	9	10	11	12
1.	Cultural Intelligence	0.280**	-0.275**	0.586**	-0.162	0.209*	-0.087	0.674**	-0.089	0.084	0.145	0.227*
2.	Cultural Adjustment	1	-0.763**	0.367**	-0.350**	0.068	-0.300**	-0.079	-0.427**	-0.105	-0.033	-0.125
3.	Culture Shock		1	-0.465**	0.393**	-0.135	0.109	-0.081	0.169	0.104	-0.093	0.441**
4.	Job Performance			1	-0.212*	0.486**	-0.122	0.486**	-0.176	-0.133	-0.135	-0.071
5.	Gender (Male)				1	0.156	0.147	-0.108	0.111	0.018	0.362**	0.166
6.	Marital Status (Married)					1	0.129	0.119	-0.102	-0.235*	0.315**	-0.118
7.	Age						1	0.037	0.796**	0.622**	0.261*	-0.119
8.	Education level							1	0.135	0.296**	-0.074	0.100
9.	Work Experience								1	0.730**	0.305**	-0.201*
10.	Overseas Experience									1	0.154	0.079
11.	English Proficiency										1	-0.254*
12.	Thai Proficiency											1

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

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

Hypothesis 3 predicted cultural intelligence had a negative influence on cultural shock. The findings of Hypothesis 3 demonstrated in Table 3 and 4. Analyzed by Pearson correlation to estimate the relationship between variables, the correlation coefficient is -0.275 ( $p=0.000$ ) that represents a negative correlation between them, and it is statistically significant. Additionally, the result estimated by a multiple regression shows that the relationship between these two variables and all control variables included in the analysis is negative, and it is statistically significant ( $R^2 = 0.499$ ;  $\beta = -0.401$ ;  $p=0.001$ ). Consequently, these results were supported Hypothesis 3.

Hypothesis 4 predicted cultural shock had a negative effect on job performance. The findings of Hypothesis 4 shown in Table 3 and 4. Analyzed by Pearson correlation to estimate the relationship between variables, the correlation coefficient is -0.465 ( $p=0.000$ ) that represents culture shock had a negative correlation and statistically significant on job performance. Additionally, the result estimated by a multiple regression shows that the relationship between these two variables and all control variables were included in the analysis is negative and it is statistically significant ( $R^2 = 0.659$ ;  $\beta = -0.702$ ;  $p=0.000$ ). Consequently, these results were supported Hypothesis 4.

Hypothesis 5 predicted a positive relationship between cultural adjustment and job performance. Table 3 and 4 demonstrated the results of Hypothesis 5. Analyzed by Pearson correlation to estimate the relationship between variables, the correlation coefficient is 0.367 ( $p=0.000$ ) that represents a positive correlation between them, and it is statistically significant. Additionally, the result estimated by a multiple regression shows that the relationship between these two variables as well as control variables analyzed together is positive, and it is statistically significant ( $R^2 = 0.655$ ;  $\beta = 0.560$ ;  $p=0.000$ ). Consequently, these results were supported Hypothesis 5.

Hypothesis 6 investigated culture adjustment as a mediator on the relationship between CQ and job performance. The result demonstrates in Table 5. CQ had a positive relationship with cultural adjustment ( $\beta=0.697$ ;  $p=0.000$ ); the relationship between CQ and job performance was confirmed ( $\beta=0.600$ ;  $p=0.000$ ) and the relationship between cultural adjustment and job performance was confirmed ( $\beta=0.351$ ;  $p=0.003$ ). Moreover, Preacher and Hayes (2004) recommended to use Sobel test to confirm the significant of the mediating effect. The finding from Sobel test ( $z = 2.66$ ,  $p = 0.008$ ) showed that it is significant mediating effect of cultural adjustment on the relationship between CQ and job performance. Consequently, Hypothesis 6 was supported.

The r-square suggested that all independent variables in the regression model can explain job performance by 70.7 percent. Finally, to check for the possible problem of multicollinearity among all variables in each equation, the Variance Inflation Factor (VIF) statistics was evaluated. The VIF values range from 1.580 to 6.438, which is higher than the maximum threshold of 5 as suggested by Rogerson (2001). However, it is still lower than 10 which is significantly below the critical value as suggested by Hair et al. (2009). This implies no serious multicollinearity issue in the analysis.

Hypothesis 7 investigated culture adjustment as a mediator on the relationship between CQ and job performance. The result demonstrates in Table 6. CQ had a negative relationship with cultural shock, and it was statistically significant ( $\beta = -0.401$ ;  $p = 0.001$ ); CQ had insignificantly positive association with job performance ( $\beta = 0.641$ ;  $p = 0.000$ ), and there was insignificant negative direction of causality between culture shock and job performance ( $\beta = -0.507$ ;  $p = 0.000$ ). Finally, the finding from Sobel test ( $z = 2.60$ ,  $p = 0.009$ ) showed that it is significant mediating effect of culture shock on the relationship between CQ and job performance. Consequently, Hypothesis 7 was supported.

The r-square suggested that all independent variables in the regression model can explain job performance by 72.7 percent. Finally, to check for the possible problem of multicollinearity among all variables in each equation, the Variance Inflation Factor (VIF) statistics was evaluated. The VIF values range from 1.631 to 5.156, which were significantly below the critical value of 10 as suggested by Hair et al. (2009). This implies no serious multicollinearity issue in the analysis.

**Table 4.**

Variables	Dependent Variable									
	Job performance		Cultural Adjustment		Cultural Shock		Job Performance		Job Performance	
	Beta	VIF	Beta	VIF	Beta	VIF	Beta	VIF	Beta	VIF
Cultural Intelligence	0.844***	2.860	0.697***	2.860	-0.401**	2.860				
Cultural Adjustment									0.560***	1.942
Cultural Shock							-0.702***	1.752		
Gender (Male)	0.050	1.531	-0.182	1.531	0.227*	1.531	0.034	1.524	0.011	1.492
Marital Status (Married)	0.774***	1.678	0.127	1.678	-0.017	1.678	0.770***	1.679	0.709***	1.700
Age	-0.020	3.630	-0.003	3.630	-0.009	3.630	-0.023	3.658	-0.016	3.612

*Result of Regression Analysis for Cultural Intelligence and Job Performance.*

Educational Level	-0.030	2.743	-0.526***	2.743	0.141	2.743	0.381***	1.361	0.517***	1.382
Work Experience	0.011	4.693	-0.071***	4.693	0.032**	4.693	0.024	5.146	0.044**	6.327
Overseas Experience	0.010	3.105	0.079***	3.105	-0.021	3.105	-0.010	3.147	-0.039*	3.901
English Proficiency	-0.890***	2.101	-0.167	2.101	-0.022	2.101	-0.572***	1.661	-0.527**	1.631
Thai Proficiency	-0.272***	1.619	-0.360***	1.619	0.227**	1.531	0.110	1.754	0.023	1.517
R Square	0.672		0.610		0.499		0.659		0.655	
Adjusted R Square	0.636		0.567		0.444		0.622		0.618	
No. of participants	92		92		92		92		92	

**Notes:** Unstandardized beta coefficients are reported

\*\*\* p <0.001, \*\* p<0.01, \*p<0.05

**Table 5.**

Variables	Cultural Adjustment		Job Performance	
	Model 1		Model 2	
	Beta	VIF	Beta	VIF
<b>Direct Effect</b>				
Cultural Intelligence	0.697***	2.860		
<b>Mediating effect</b>				
Cultural Intelligence			0.600***	3.777
Cultural Adjustment			0.351**	2.565
<b>Control variables</b>				
Gender (Male)	-0.182	1.531	0.114	1.580
Marital Status (Married)	0.127	1.678	0.729***	1.704
Age	-0.003	3.630	-0.019	3.632
Educational Level	-0.526***	2.743	0.155	3.580

*Result of Regression Analysis of the Mediating Role of Cultural Adjustment.*

Work Experience	-0.071***	4.693	0.036***	6.438
Overseas Experience	0.079***	3.105	-0.018	4.393
English Proficiency	-0.167***	1.101	0.036***	2.129
Thai Proficiency	-0.360***	1.619	-0.146	2.088
R Square	0.610		0.707	
Adjusted R Square	0.567		0.670	
No. of participants	92		92	

**Notes:** Unstandardized beta coefficients are reported

\*\*\* p < 0.001, \*\* p < 0.01, \*p < 0.05

**Table 6.**

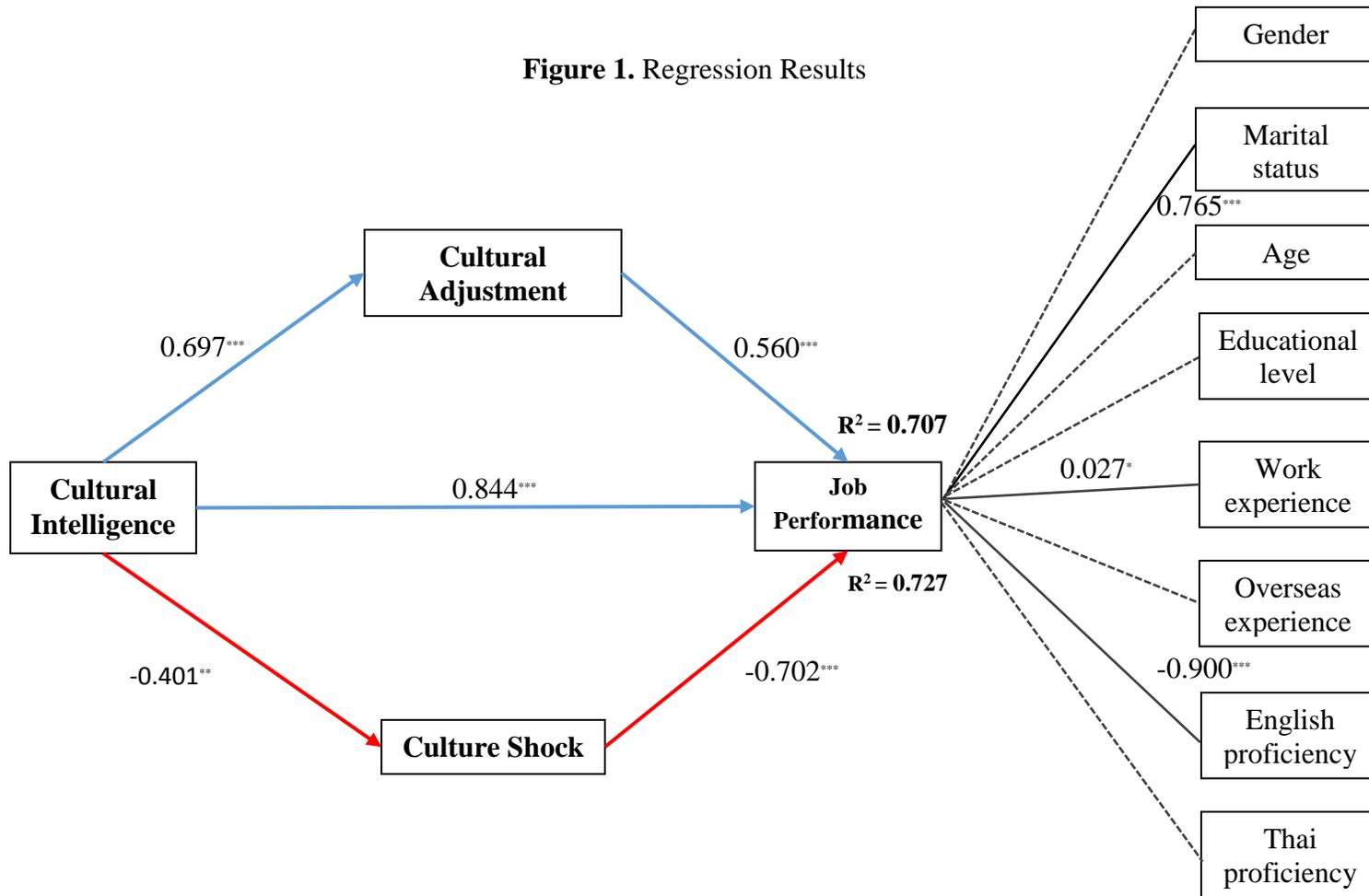
*Result of Regression Analysis of the Mediating Role of Cultural Shock.*

	Model 1		Model 2	
	Beta	VIF	Beta	VIF
<b>Direct Effect</b>				
Cultural Intelligence	-0.401***	2.860		
<b>Mediating effect</b>				
Cultural Intelligence			0.641***	3.258
Cultural Shock			-0.507***	1.996
<b>Control variables</b>				
Gender (Male)	0.227	1.531	0.165	1.631
Marital Status (Married)	-0.017	1.678	0.765***	1.679
Age	-0.009	3.630	-0.025*	3.662
Educational Level	0.141	2.743	0.042	2.821
Work Experience	0.032**	4.693	0.027*	5.156
Overseas Experience	-0.021	3.105	-0.001	3.221
English Proficiency	-0.022	2.101	-0.900***	2.102
Thai Proficiency	0.379***	1.619	-0.080	2.299
R Square	0.706		0.727	
Adjusted R Square	0.499		0.694	
No. of participants	92		92	

**Notes:** Unstandardized beta coefficients are reported

\*\*\* p < 0.001, \*\* p < 0.01, \*p < 0.05

Figure 1. Regression Results



**Notes:** Unstandardized beta coefficients are reported  
 \*\*\* p < 0.001, \*\* p < 0.01, \* p < 0.05  
 Solid lines represent significant coefficients

## **DISCUSSION AND CONCLUSION**

The aim of this study was to examine the relationship among cultural intelligence, cultural adjustment, culture shock and job performance. Another purpose was to examine cultural adjustment and culture shock as mediator affecting on the relationship between CQ and job performance. The results showed that cultural intelligence had a positive effect on job performance and on cultural adjustment. This means the higher CQ foreign faculty and staffs have, the better job performance they perform in cross-cultural work environment. Also, if foreign employees have cultural knowledge in specific country they are living, they can adjust themselves in different cultural contexts. However, there was a negative direction of causality between CQ and culture shock. The higher CQ employees have, the less suffering from culture shock they get. Also, culture shock reportedly had a negative affected on job performance, whereas cultural adjustment was positively related job performance. Finally, cultural adjustment and culture shock fully mediated the positive effect of cultural intelligence on job performance. Foreign employees might have high cultural competence, but they may perform poorly and tend to suffer if they cannot adapt themselves to new cultures. Moreover, people who have high level of CQ tend to get less suffering of culture shock and it leads to working better on their assignments. Culture shock can be a main factor that cause stress and uncertain feelings and has an impact on behaving inappropriately and bad attitude leading to less job satisfaction and poor job performance. The revealed direction of each relationship is consistent with previous studies (Chen, Lin & Saeangpattanakul, 2011; Hisam, 1997; Kim, 2008; Kraimer & Wayne, 2004; Mumford, 1998.).

In addition, another interesting finding is marital status and work experience had a positive effect on their job performance, while English proficiency had negative effect on job performance. Also, the r-square suggested that all independent variables and control variables added in the regression model can explain job performance better than put only one or two variables. Finally, to check for the possible problem of multicollinearity among all variables in each equation, the Variance Inflation Factor (VIF) statistics was evaluated. The VIF values were significantly below the critical value of 10 as suggested by Hair et al. (2009). This implies no serious multicollinearity issue in the analysis. As can be seen, the study found the statistically significant direction of each relationship.

According to the results, there are several weaknesses in this research. First, all samples were nonprobability sampling. The generalization of the results to a larger population can be questioned due to lack of random selection in the sampling process. Moreover, using convenient sampling leads to some over-present certain characteristic of participants. For example, the participants are foreign lectures and staffs who have high level of proficiency and get many years of overseas experience. These reasons may help them adjust themselves in cross-cultural contexts and it could also reduce the level of culture shock. Finally, collecting data by asking the participants to evaluate themselves in each main concept may cause social desirability bias including self-deception. Although the research findings were inconclusive, it revealed a direction of each relationship is consistent with previous studies. For further research it should collect data from a larger group of people and select them randomly so that findings will get more valid and reliable.

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## **OPTIMAL BOOK-VALUE DEBT RATIO**

by

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### **ABSTRACT**

When a firm has a target capital structure, it is usually in a book-value term rather than a market-value term as presumed by capital structure theories or finance textbooks. In large part, this is because it is a book-value debt ratio that bankers, creditors and rating agencies pay attention to and even put in their loan covenants. The objective of this paper is to provide a systematic and practical method to determine the optimal corporate book-value debt ratio. The proposed method balances both the tax benefit of debt and its associated bankruptcy cost and more importantly incorporate the aims to maintain a good credit rating, financial robustness in times of adverse shocks and financial flexibility to seize good investment opportunities. The method could be applied by corporate finance managers to approximate the optimal book-value debt ratio to maximize a firm value.

**KEY WORDS:** Capital structure, cost of capital, debt ratio, leverage ratio

### **INTRODUCTION**

When a firm decides the mix of debt and equity to finance its investment, it wants a mix of a capital structure that maximize its value. Debt provides benefits in the form of tax saving and managerial discipline. However, it also increases financial distress costs, including bankruptcy costs, and costs of investor conflicts. A firm must balance the pros and cons in order to minimize its cost of capital or WACC (Weighted Average Cost of Capital) as explained in the standard trade-off theory (Kraus & Litzenberger, 1973). Finance theories suggest that a firm should consider the optimal mix only in terms of market values. Unfortunately, in practice, a firm usually has to set a target capital structure in a book-value term rather than a market-value term as presumed by capital structure theories. In large part, this is because it is a book-value debt ratio that bankers, creditors and rating agencies pay attention to and even put in their loan covenants.

In addition, surveys among financial managers (Koller, Goedhart, & Wessels, 2015) reveal that they put more emphasis on preserving financial flexibility and robustness than on minimizing the cost of capital. The financial flexibility is the ability to fund additional investments as opportunities arise, whereas the financial robustness is the ability to withstand downturns in the business cycle and other adverse shocks. These two aspects are normally overlooked in the conventional analysis along the line of the trade-off model.

The objective of this paper is to provide a systematic and practical method to determine the optimal book-value debt ratio. The proposed method balances both the tax benefit of debt and its associated bankruptcy cost and more importantly incorporates the aims to maintain a good credit rating, financial robustness and financial flexibility while maintaining an optimal credit rating (defined as the credit rating that corresponds to the optimal capital structure). The method could be applied even in the case of privately-held firms with no market values to approximate the optimal book-value debt ratio to maximize a firm value.

In term of methodology, this paper improves over the conventional de- or re- leveraging method using the Hamada equation (Hamada, 1972) by incorporating default risk as proposed by Cohen (2004) and Cohen (2007). The Hamada's equation is widely applied in practice as it separates business risk and financial risk of a levered firm. Financial analysts use it to de-lever and re-lever beta to evaluate the impact of a change in capital structure to a firm's cost of equity. However, it does not incorporate the impact of default risk and credit spread. Moreover, this paper specifically applies the Fernandez (2007) valuation model which assumes that a firm targets its capital structure in book-value terms rather than market-value terms as normally presumed in other valuation models.

## **LITERATURE REVIEW**

The capital structure theory was first developed by Modigliani and Miller (1958) (henceforth, MM). They show that in the world with no agency costs nor financial distress costs and the independence between expected unlevered earnings and leverage, the optimal capital structure is to have debt as much as possible until tax-deductible interest expenses equal earnings before interest and corporate income tax (EBIT). The firm would minimize its income tax expense and as a result maximize the firm's value. They conclude that the key benefit of debt is its property as a tax shield.

Later, Kraus and Litzenberger (1973) points out in the Trade-Off model that there are both benefits and costs of leverage that need to be considered. Leverage provides key benefits in the form of lower corporate income taxes and reducing overinvestment. However, there are costs that arise from higher financial distress costs, including bankruptcy costs, and conflicts of interest among investors. The optimal leverage is a point where the net benefits are largest. As a result, the optimal leverage will differ between firms, depending on their characteristics. Mature and asset intensive firms are more leveraged.

An alternative view sees a pecking order in corporate fund raising (Myers & Majuf, 1984). This Pecking-order theory suggests that a firm finances its investment first by using internal funds from retained earnings, then by issuing debt, and then only at last resort by issuing new equity. The reason is that investors will interpret a new equity issuance as an overvaluation signal and this could cause the share price to fall. The implication is that firms will have lower leverage when they are more mature and profitable, simply because they can fund their investment internally from retained earnings and do not need external funding from debt or equity.

Koller et al. (2015) shows the distribution of credit ratings from S&P for all U.S. and European firms with a market capitalization over one billion dollars. Ratings of most companies are

in the range from A+ to BBB-. They reason that better rating than A+ would simply sacrifice too much value in the form of tax saving and management discipline. In contrast, a rating below BBB-, which is considered as a non-investment grade, would cause a sharp increase in interest rate and limited access to funding. They show that within this range, a firm value does not vary much with a firm's capital structure. They argue that within this rating range most financial managers would put more emphasis on preserving financial robustness and flexibility than on minimizing the cost of capital. They provide a framework that incorporates both objectives when a firm attempts to set its target capital structure.

Hamada (1972) combines the MM capital structure with corporate income tax and the CAPM. The result is the standard equation that links stock's expected return or beta to its leverage. A level of leverage is measured by a market-value debt-to-equity (DE) ratio. Unfortunately, the effect of credit risk or credit spread is not incorporated into the equation since the model assume that the cost of debt equals to the risk-free rate. Later, Conine and Tamarkin (1985) improves the Hamada's equation by incorporating the effect of credit risk. They apply the concept of "debt beta" to derive the Hamada equation with risky debt. Nevertheless, Cohen (2004, 2007) shows that their equation cannot give the optimal capital structure because in the end it is based on the MM equation. As such, a firm should have as much debt as possible to save its income tax. He introduces the concept of "idealized debt" and shows that it can be used to find the optimal capital structure.

Fernandez (2007) argue that a firm usually set its capital structure in a book-value term rather than a market-value term as normally assumed by finance textbooks. It is this book-value debt ratio that bankers, creditors and rating agencies pay attention to. He derive a valuation model based on a constant book-value debt ratio which lies between those of Modigliani and Miller (1963) (fixed level of debt) and Miles and Ezzell (1985) (fixed market-value debt ratio). He also provides empirical evidence to show that debt is more related to the book value of assets than their market value.

### **THEORETICAL MODEL**

Hamada's equation (Hamada, 1972) shows the relationship between beta of a levered firm and that of an unlevered one. It is derived from the standard MM proposition (Modigliani & Miller, 1963) and the CAPM. See derivation in section 7.1 in this appendix.

$$\beta_l = \beta_u + (1-T) \cdot \left(\frac{D}{E}\right) \cdot \beta_u$$

The symbol " $\beta_l$ " and " $\beta_u$ " stand for the levered and unlevered betas, respectively. The "D/E" is the interest bearing debt-to-equity ratio and "T" stands for the corporate income tax rate. This equation reveals that beta would increase linearly with debt level. However, since both the standard MM and CAPM which it is based upon assume no credit risk, the Hamada equation also does not consider credit risk. It basically treats interest rate as a constant and equal to the risk-free rate, irrespective of the degree of leverage. In addition, it is not clear how one can calculate the D/E ratio. Most practitioners would use book-value of interest bearing debt and book-value of equity, where theories seem to suggest that we should use only market values.

If we follow the theories, then we face more issues. Firstly, theories insist on a market value of debt but also assume that it is risk-free. Of course, it is not. Secondly, we can use a market capitalization of that stock as its market value. However, if it is not a listed company, there is no market price nor market capitalization.

To address the issue of credit risk, Conine and Tamarkin (1985) introduces the concept of “debt beta.”

$$\beta_l = \beta_u + (1-T) \cdot \left(\frac{D}{E}\right) \cdot (\beta_u - \beta_d)$$

However, even with higher credit risk and higher cost of debt, the methodology could not generate a Weighted Average Cost of Capital (WACC) that provides an optimal capital structure in the form of minimum WACC and maximum firm value. The reason is that it is still based on the standard MM and the firm value will increase linearly with debt. More debt would give more value due to its tax saving property from tax deductibility of interest expense. The firm value is determined in the following equation.

$$V_l = V_u + T \cdot D$$

The levered value of the firm is  $V_l$  and the unlevered one is  $V_u$ . The value of the firm would increase with leverage until it reaches its theoretical limit at  $EBIT/r_d$ , where the firm’s entire before-tax income is paid as an interest expense and there is no taxable income left. This is inconsistent with the idea that the firm value should decrease eventually at some point as a higher interest expense would outweigh the benefit of debt’s tax shield as suggest by the trade-off theory (Kraus & Litzenberger, 1973).

This paper extends Cohen (2004) and Cohen (2007) in terms of methodology to incorporate default risk into the Hamada’s equation. The contribution is in terms of a prove and interpretation of Cohen’s results. For example, in his work, there is no interpretation of “D\*” or what he called the “idealized or virtual riskless debt.” There was also no prove of how the modified Hamada’s equation was derived. Then, this paper follows Fernandez (2007) in terms of determining the optimal capital structure in terms of a book-value one. Finally, we incorporate the desires of good credit rating, financial flexibility and robustness by following the framework suggested by Koller et al. (2015).

For simplicity sake, we begin with a “zero growth” case, where EBIT (Earnings Before Interest and Taxes) is expected to be constant and there is no need for reinvestment. Thus cash flows from depreciation would be fully reinvested to maintain the amount of invested capital. Therefore,  $EBIT(1 - T)$  or in other words Net Operating Profit After Tax (NOPAT) would also equal to the Free Cash Flow to Firm (FCFF). There is a constant corporate income tax rate (T). Assume further that shareholders would get nothing back in return when the company defaults on its debt and a default happens when a firm’s value is lower than the book-value (or equivalently, the face-value) of debt. When the firm increases its leverage, its credit rating starts to deteriorate and its cost of debt will increase. The market value of debt will be re-

priced accordingly to have a lower value. In this zero growth case, the amount of debt is fixed.

We start with the definition of the firm value. It is the summation of market value of equity and market value of debt in this simple setting. In addition, according to Modigliani and Miller (1963), the value of the levered firm is also equal to the value of the unlevered one plus the value of the debt tax shield. Debt gives benefit of a tax shield due to the tax deductibility of interest expense.

$$V = E + D = V_u + VTS$$

“V” stands for value of the firm. “E” and “D” are market value of equity and debt, respectively. “V<sub>u</sub>” is the value of an unlevered firm and “VTS” is the value of debt tax shield. It is basically the summation of present value of tax saving each year.

Debt is assumed to be a perpetual one with a constant amount of “D\*”. This “D\*” is called the “idealized” or “virtual” riskless debt in Cohen (2004) and Cohen (2007). If there is no default risk as presumed in the standard MM formula, then the cost of debt for this D\* would be the risk-free rate (r<sub>f</sub>). Since the firm has a credit risk, its actual cost of debt is r<sub>d</sub>. So, we can restate the market value of debt (D), which is also the book value of debt since we assume immediate repricing of debt, as the following.

$$r_d \cdot D = r_f \cdot D^*$$

$$D^* = \frac{r_d \cdot D}{r_f}$$

Since we assume that shareholders would get nothing in case of a default, then the market value of equity would be equal to market value of the firm minus the book-value (or face value) of debt (D). Since the interest expense is linked to the face value, then the value of tax shield also linked with D. Therefore, we get the following equations.

$$E = (V_u + T \cdot D^*) - D^*$$

$$D = \frac{I}{r_d} = \frac{r_f \cdot D^*}{r_d}$$

$$V = E + D = (V_u + T \cdot D^*) - (D^* - D)$$

“I” stands for an interest expense. “r<sub>d</sub>” is the market cost of debt, which depend on the firm’s credit rating. This higher rating would mean lower cost of debt. The credit rating itself depends mainly on the interest coverage ratio (ICR) defined as EBIT over I.

Basically, the above equation shows that the value of the levered firm is separated into two parts. The first part, (V<sub>u</sub> + T.D\*), is simply the firm value if there is no default risk as derived in the original MM. It reveals that the value of a levered firm is just the value of an unlevered one plus the present value of tax saving from a debt tax shield (T.D\*). See appendix 7.3 for a derivation. The second part, (D\* – D), is a reduction in the firm value from an increase in a

default risk as investors demand higher cost of debt ( $r_d$ ) to compensate. It is also a reduction in the market value of debt ( $D$ ) from its book or face value of debt ( $D^*$ ). If debt becomes riskless, then the market value of debt will equal to its book or face value ( $D = D^*$ ) and this second term will be zero.

The cost of equity ( $r$ ) is still based on the CAPM. Moreover, the levered beta is still determined by the Hamada equation. Since this equation is applicable only in the risk-free world, the debt in this equation must be the idealized debt ( $D^*$ ).

$$r_e = r_f + \beta_l \cdot MRP$$

$$\beta_l = \beta_u + \left(\frac{D^*}{E}\right) \cdot (1-T) \cdot \beta_u$$

The debt-to-equity ratio (DE) that is used to de- or re- lever the cost of equity in the above Hamada's equation must be the ratio between the idealized value of debt ( $D^*$ ) over the market-value of equity.

To find the optimal capital structure, we could search over the value of  $D^*$  (or alternatively, over the value of  $D$ ) that maximize the firm value and minimize the cost of capital (WACC) at the same time. The FCFE is fixed at  $NOPAT = EBIT(1-T)$ , since the only reinvestment is a depreciation expense. We assume further that the return on invested capital (ROIC) is fixed. Therefore, given the same amount of total assets, the expected NOPAT and FCFE are fixed. If we could find the optimal amount of  $D^*$  (or  $D$ ) given the amount of total assets, then we would also get the optimal amount of book-value of equity (BE) and the optimal book-value leverage ratio of a company ( $D/BE$ ).

In addition, given the optimal debt level and its associated cost of debt. We could calculate the interest expense ( $I = r_d \cdot D = r_f \cdot D^*$ ). Then, we can calculate the ICR as a ratio of EBIT over an interest expense. This ICR is the key factor in determining the most likely credit rating, which in turn will determine the borrowing spread over a risk-free rate and a cost of debt. The most likely rating that the firm would have with the optimal capital structure is called an "optimal credit rating."

Based on the framework proposed by Koller et al. (2015), the firm could add two more objectives of financial robustness and flexibility. The firm could achieve more robustness and flexibility by lowering the amount of debt, sacrificing the tax saving benefit in the process, but still maintain an optimal credit rating. See section 4 for an example of how to implement this idea.

## NUMERICAL EXAMPLE

We will use the above framework to find an optimal capital structure of this hypothetical company. The firm has total assets (TA) of 100. The corporate income tax rate is 30%. Given the return on invested capital ( $ROIC = NOPAT/TA = EBIT(1-T)/TA$ ) of 11%, the firm generates net operating profit after tax (NOPAT) each year of 11. Since this is a zero-growth case, only depreciation is reinvested to maintain the invested capital. Then NOPAT also becomes free cash flow to firms (FCFF). By dividing NOPAT with  $(1-T)$ , we would get an EBIT of 15.7 each year.

Given the risk-free rate of 4%, the unlevered beta ( $\beta_u$ ) of 1 and the market risk premium of 5%, the unlevered cost of equity ( $r_u$ ) is  $9\% = 4\% + (1)(5\%)$  according to the CAPM. The unlevered value of the firm ( $V_u$ ) would equal to  $FCFF/WACC$  in this no growth case. The unlevered cost of capital would also equal to the unlevered cost of equity. So,  $V_u = 11/9\% = 122.2$  as  $FCFF = NOPAT$  in this case.

To capture the impact of credit risk on the cost of debt, we follow Damodaran (2012) in using credit rating as a key determinant of a spread above a risk-free rate. There are many factors that credit rating agencies use in the process but statistically speaking, the single best quantitative predictor is the interest coverage ratio (ICR) defined as EBIT divided by an interest expense (I). The table 1 below shows that historical relationship between ICRs, ratings, and default spreads in the early 2009. We get this table from Damodaran (2012).

The interest expense would equal to the cost of debt ( $r_d = r_f + \text{spread}$ ) times the amount of debt. The spread is determined by the firm's credit rating which in turns is determined by EBIT over the interest expense itself. So, there is a bit of circularity here and we can solve it recursively by iterating the process until it converges.

Table 2 shows how to apply the proposed framework to find an optimal capital structure. We increase debt with an increment of 10 at each step. The optimal book-value debt amount ( $D^*$ ) is found at 30 and since the amount of total assets is fixed at 100, we can deduce that the optimal book-value equity of 70 leading to an optimal book-value leverage ratio ( $D/BE$ ) of 0.3. The optimal credit rating is "AAA" in this case.

Now, we can consider financial flexibility and robustness. The flexibility is measured by the amount of additional borrowing the firm could afford and still maintain its credit rating. In this case, to maintain the rating at "AAA" the firm needs keep its ICR at least at 8.5 (ICR\*) while the ICR at the optimal debt is only at 9.98. The amount that the firm could borrow more and maintain its credit rating is  $(EBIT/r_d)(1/ICR^* - 1/ICR) = (15.7/5.25\%)(1/8.5 - 1/9.98) = 5.21$ . This simply means that the firm could increase its debt by 17% ( $5.21/30$ ) and yet still maintain its rating and it uses only about 85% ( $30/(30+5.21)$ ) of its debt capacity at this rating.

The robustness is measured by how much EBIT could drop before its ICR would be below the minimum to maintain its credit rating (8.5 in this case). The formula is  $EBIT - ICR^* \cdot r_d \cdot D^*$ . In

this case, it is  $15.7 - (8.5)(5.25\%)(30) = 2.33$ . This simply means that the firm could afford to have a lower EBIT by 15% ( $2.33/15.7$ ) and yet still maintain its optimal credit rating.

Another measure of robustness, which we call “Rd robustness”, indicates how much an increase in the cost of borrowing the firm could afford and yet still maintain its optimal rating. The formula is  $(1/ICR^*). (EBIT/D^*) - r_d$ . It is  $0.9\% = (1/8.5). (15.7/30) - 5.25\%$  in this case.

Given these measures, the firm can weight the benefits and costs in terms of flexibility, robustness and tax saving. By lowering its borrowing one unit, it could also increase its flexibility by 1, its robustness by  $0.4 = ICR^*.r_d = (0.85).(5.25\%)$  and its Rd robustness by  $0.2\%$   $[[ (1/ICR^*). (EBIT/(D^*-1)) - r_d ] - [ (1/ICR^*). (EBIT/D^*) - r_d ]]$ . The cost in terms of a loss in tax saving is  $-0.3 (-T)$  and the gain in terms of a lower  $(D^* - D)$  or a lower reduction in the firm value from an increase in a default risk as investors demand higher cost of debt ( $r_d$ ) to compensate. The formula is  $(1 - r_f/r_d)$ . It is  $0.24 = (1 - 4\%/5.25\%)$  in this case. So, the net cost is  $-0.30 + 0.24 = -0.06$  in terms of a firm’s value. A financial manager can weight this net cost with the gains in terms of robustness and flexibility. The numbers are reported in table 3.

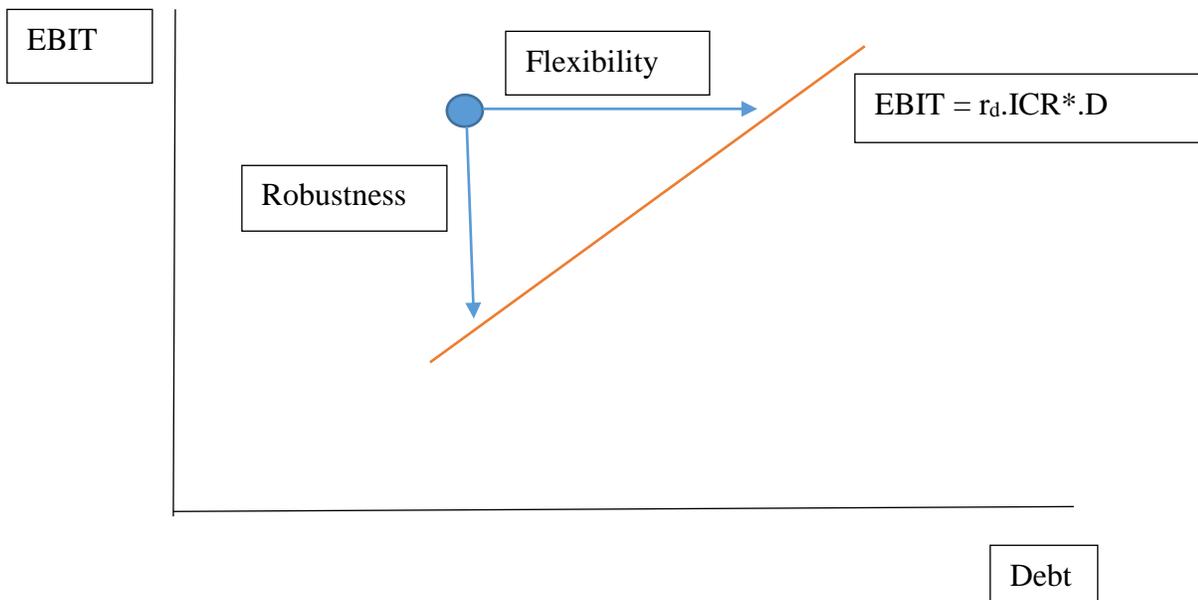
ICR\* = Minimum Interest Coverage Ratio required to maintain an optimal rating

$$ICR \geq ICR^*$$

$$\frac{EBIT}{I} \geq ICR^*$$

$$\frac{EBIT}{r_d \cdot D} \geq ICR^*$$

$$\frac{EBIT}{D} \geq r_d \cdot ICR^*$$



**Table 1.**

*Relationships among ICRs, Ratings and Default.*

ICR	Rating	Spread
< 0.20	D	20.00%
0.20-0.65	C	15.00%
0.65-0.80	CC	12.00%
0.80-1.25	CCC	10.00%
1.25-1.50	B-	8.50%
1.50-1.75	B	7.25%
1.75-2.00	B+	6.00%
2.00-2.25	BB	5.00%
2.25-2.50	BB+	4.25%
2.50-3.00	BBB	3.50%
3.00-4.25	A-	3.00%
4.25-5.50	A	2.50%
5.50-6.50	A+	2.25%
6.50-8.50	AA	1.75%
> 8.50	AAA	1.25%

**Source:** Damodaran (2012), Capital IQ, BondsOnline.com.

**Table 2.**

*The Application of the Proposed Framework to Find the Optimal Book Leverage Ratio.*

Total Assets	100	ROIC	11.00%	Ru	9.00%	D/E	0.2	Wd	18.4%	Book Wd	22.9%										
Book-value Debt (D)	22.9	NOPAT	11.0	Vu	122.2	D*/E	0.3	WACC	8.87%	Re	10.04%										
Book-value Equity (BE)	77.1	EBIT	15.7			D/BE	0.3	V	124.1	E	101.2	D	22.9								
Risk-free rate (Rf)	4.00%	BetaU	1			Rating	AAA	IC = A	100.0	BE	77.1	D*	30.0								
Tax rate (T)	30%	MRP	5.00%					V/IC	1.2	PBV	1.3	D/D*	0.8								
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	
Idealised Debt (D*)	Interest	ICR	Rating	Rd	Tax rate	Rd(1-T)	D	Vu + T.D*	D*-D	V	E	D	D*/E	BetaL	Wd	Rd(1-T)	We	Re	WACC	V	
0	-	Inf	AAA	5.25%	30%	3.68%	0	122.2	0.0	122.2	122.2	0.0	0.0	1.0	0.0%	3.68%	100.0%	9.00%	9.00%	122.2	
10	0.53	29.93	AAA	5.25%	30%	3.68%	8	125.2	2.4	122.8	115.2	7.6	0.1	1.1	6.2%	3.68%	93.8%	9.30%	8.95%	122.8	
20	1.05	14.97	AAA	5.25%	30%	3.68%	15	128.2	4.8	123.5	108.2	15.2	0.2	1.1	12.3%	3.68%	87.7%	9.65%	8.91%	123.5	
30	1.58	9.98	AAA	5.25%	30%	3.68%	23	131.2	7.1	124.1	101.2	22.9	0.3	1.2	18.4%	3.68%	81.6%	10.04%	8.87%	124.1	
40	2.50	6.29	A+	6.25%	30%	4.38%	26	134.2	14.4	119.8	94.2	25.6	0.4	1.3	21.4%	4.38%	78.6%	10.49%	9.18%	119.8	
50	3.25	4.84	A	6.50%	30%	4.55%	31	137.2	19.2	118.0	87.2	30.8	0.6	1.4	26.1%	4.55%	73.9%	11.01%	9.32%	118.0	
60	4.20	3.74	A-	7.00%	30%	4.90%	34	140.2	25.7	114.5	80.2	34.3	0.7	1.5	29.9%	4.90%	70.1%	11.62%	9.61%	114.5	
70	5.25	2.99	BBB	7.50%	30%	5.25%	37	143.2	32.7	110.6	73.2	37.3	1.0	1.7	33.8%	5.25%	66.2%	12.35%	9.95%	110.6	
80	8.00	1.96	B+	10.00%	30%	7.00%	32	146.2	48.0	98.2	66.2	32.0	1.2	1.8	32.6%	7.00%	67.4%	13.23%	11.20%	98.2	
90	11.25	1.40	B-	12.50%	30%	8.75%	29	149.2	61.2	88.0	59.2	28.8	1.5	2.1	32.7%	8.75%	67.3%	14.32%	12.50%	88.0	

**Notes:** The top of the table provides background information.

(1) is an idealized value of debt (D\*). We search for the optimal leverage by increase debt 10 units at each step.

(2) is an interest expense. It equals to  $r_d \cdot D^*$  or (1)x(5).

(3)  $ICR = EBIT/Interest = 15.7/(2)$

(4) Rating depends on ICR as specified in Table 1.

(5)  $R_d = \text{cost of debt} = r_f + \text{spread determined by rating according to Table 1}$

(6)  $\text{Tax rate} = \text{Min}(\text{Tax rate}, (\text{Tax rate})(EBIT)/(\text{Interest}))$

(7)  $R_d(1-T) = \text{After-tax cost of debt}$

(8)  $D = \text{market-value of debt} = \text{book-value of debt} = (r_f \cdot D^*)/r_d$

(9)  $V_u + T \cdot D^* = \text{firm value if there is no default risk as derived in the original MM}$

(10)  $(D^* - D) = \text{a reduction in the firm value from an increase in a default risk as investors demand higher cost of debt (rd) to compensate.}$

(11)  $\text{Value of a levered firm} = (V_u + T \cdot D^*) + (D^* - D) = E + D$

(12)-(21) are self-explanatory.

**Table 3.**

*Robustness and Flexibility.*

		% allowed	% of cap used	Debt Capacity
Financial Flexibility	5.21	17%	85%	35.21
Financial Robustness	2.33	-15%		
Rd Robustness	0.9%			
Benefits	Flexibility	1		
	Robustness	0.4		
	Rd Robust	0.2%		
Costs	loss TS	-0.30		
	gain	0.24		
	Net Cost	-0.06		

### CONCLUSION

The objective of this paper is to provide a systematic and practical method to determine the optimal corporate book-value debt ratio. The proposed method balances both the tax benefit of debt and its associated bankruptcy cost and more importantly incorporates the aims to maintain a good credit rating, financial robustness in times of adverse shocks and financial flexibility to seize good investment opportunities.

This paper extends Cohen (2004) and Cohen (2007) in terms of methodology to incorporate default risk into the Hamada's equation. The contribution is in terms of a proof and interpretation of Cohen's results. Then, this paper follows Fernandez (2007) in terms of determining the optimal capital structure in terms of a book-value one. Finally, we incorporate the desires of good credit rating, financial flexibility and robustness by following the framework suggested by Koller et al. (2015). The method can be applied even to a non-listed company.

The key limitation that we hope to relax further is the "zero-growth" assumption. We would like to extend to the model to incorporate a constant growth case and also a general free cash flow case in our future research.

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## APPENDICES

### Appendix I.

A derivation of Hamada (1972) equation

Combine MM-with Taxes proposition II

$$r_L = r_U + (r_U - r_d) \cdot (1-T) \cdot \frac{D}{E}$$

with CAPM.

$$r_U = r_f + \beta_U \cdot (r_m - r_f)$$

We get

$$r_L = r_f + \beta_U \cdot (r_m - r_f) + [r_f + \beta_U \cdot (r_m - r_f) - r_d] \cdot (1-T) \cdot \frac{D}{E}$$

and **assuming**  $r_d = r_f$

$$r_L = r_f + \beta_U \cdot (r_m - r_f) + \beta_U \cdot (r_m - r_f) \cdot (1-T) \cdot \frac{D}{E}$$

$$r_L = \quad r_f \quad + \beta_U \cdot (r_m - r_f) \quad + \beta_U \cdot (r_m - r_f) \cdot (1-T) \cdot \frac{D}{E}$$

= Risk-free rate + Business risk premium + Financial risk premium

$$r_L = r_f + \beta_U \cdot [1 + (1-T) \cdot \frac{D}{E}] \cdot (r_m - r_f)$$

$$= r_f + \beta_L \cdot (r_m - r_f)$$

$$\beta_L = \beta_U \cdot [1 + (1-T) \cdot \frac{D}{E}]$$

A derivation of levered cost of equity and levered beta (Koller et al., 2015) and the adjused Hamada equation as proposed by Conine and Tamarkin (1985)

$$r_v = \left(\frac{V_u}{V_u + V_{txa}}\right) \cdot r_u + \left(\frac{V_{txa}}{V_u + V_{txa}}\right) \cdot r_{txa} = \left(\frac{D}{D + E}\right) \cdot r_d + \left(\frac{E}{D + E}\right) \cdot r_e$$

$$V_u \cdot r_u + V_{txa} \cdot r_{txa} = D \cdot r_d + E \cdot r_e$$

$$V_u \cdot r_u - D \cdot r_d + V_{txa} \cdot r_{txa} = E \cdot r_e$$

$$r_e = \left(\frac{V_u}{E}\right) \cdot r_u - \left(\frac{D}{E}\right) \cdot r_d + \frac{V_{txa}}{E} \cdot r_{txa}$$

$$V_u = D - V_{txa} + E$$

$$r_e = \left(\frac{D - V_{txa} + E}{E}\right) \cdot r_u - \left(\frac{D}{E}\right) \cdot r_d + \frac{V_{txa}}{E} \cdot r_{txa} = \left(\frac{D}{E}\right) \cdot r_u - \left(\frac{V_{txa}}{E}\right) \cdot r_u + r_u - \left(\frac{D}{E}\right) \cdot r_d + \left(\frac{V_{txa}}{E}\right) \cdot r_{txa}$$

$$r_e = r_u + \left(\frac{D}{E}\right)(r_u - r_d) - \left(\frac{V_{txa}}{E}\right)(r_u - r_{txa})$$

$$r_e = r_u + \left(\frac{D}{E}\right)(r_u - r_d) - \left(\frac{V_{txa}}{E}\right)(r_u - r_{txa})$$

If debt is a constant proportion of firm value (i.e., debt grows as the business grows),  $r_{txa} = r_u$ .

$$r_e = r_u + \left(\frac{D}{E}\right)(r_u - r_d)$$

$$\beta_l = \beta_u + \left(\frac{D}{E}\right)(\beta_u - \beta_d)$$

If debt levels are constant or known overtime, then  $r_{txa} = r_d$ .

$$r_e = r_u + \left(\frac{D - V_{txa}}{E}\right)(r_u - r_d)$$

$$V_{txa} = D \cdot T$$

$$r_e = r_u + \left(\frac{D}{E}\right)(1 - T)(r_u - r_d)$$

$$\beta_l = \beta_u + \left(\frac{D}{E}\right)(1 - T)(\beta_u - \beta_d)$$

## **Appendix II.**

A derivation of the value of debt tax shield

By using debt, each year the firm would save tax payment and increase return to investors. This is the tax saving per year.

$$\text{Tax Saving} = r_d.T.D$$

To find the present value or capitalization of this tax saving, we discount it with the interest cost ( $r_d$ ), which is the source of this tax saving.

So, the total value of debt tax shield (VTS) would equal to the infinite summation of present value of tax saving each year.

$$\text{VTS} = (r_d.T.D)/r_d = T.D$$

**COMBATING PUBLIC SECTOR'S CORRUPTION IN THAILAND:  
THE NEED TO LEGISLATING THE SPECIAL INVESTIGATIVE TECHNIQUES  
FROM ARTICLE 50(1) OF THE UNCAC INTO  
THE SUPPLEMENTING THE CONSTITUTION RELATING TO  
THE PREVENTION AND CORRUPTION ACT B.E. 2561 (2018) OF THAILAND**

by

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**ABSTRACT**

This research article aims to encourage the legislating of the special investigative techniques from Article 50 of the UN Convention against Corruption (UNCAC) into the Supplementing the Constitution Relating to the Prevention and Suppression of Corruption Act B.E. 2561 (2018) of Thailand. It aims to answer the following research questions: (1) Why must the special investigative techniques be used as legal instruments to obtain criminal evidence in public sector's corruption cases in Thailand? (2) What are the limitations and problems of the use of special investigative techniques in prosecuting public sector's corruption cases in the domestic law of Thailand? and (3) How can Thailand develop the use of the special investigative techniques into the domestic law(s) to comply with the international's standard? To answer these questions, a doctrinal research methodology was used by conducting a comprehensive analysis of the obligations under Article 50 of the UNCAC. Further, the domestic laws of England and Wales, the United States and the Netherlands relating to the issues would be critical analysis to compare with the domestic laws of Thailand. Consequently, the results of this research will contribute to the development of the use of special investigative techniques, as legal instruments to combat public sector's corruption in Thailand. Eventually, this research had concluded that the special investigative needed to be legislating into the Supplementing the Constitution Relating to the Prevention and Suppression of Corruption Act B.E. 2561 (2018) of Thailand to successfully combat public sector's corruption in Thailand because the conventional investigative techniques are not sufficient to obtain criminal evidence in these cases. Nonetheless, there must be a strike balance between the imposing of the special investigative techniques and the violation of individual's human rights.

**KEY WORDS:** Corruption, Criminal investigation,  
Supplementing the Constitution Relating to the Prevention and  
Suppression of Corruption Act B.E. 2561,  
Special investigative techniques, UNCAC

**INTRODUCTION**

Nowadays, corruption, especially in public sector's, is considered one of serious issues of the world since it affects national security, economic well-being and law enforcement in both developed countries and developing countries (United Nations, 2018). In 2018, the

World Economic Forum, the International Organization for Public-Private Cooperation, estimated that the global cost of corruption is at least 3.6 trillion dollars or 5 per cent of the global gross domestic product (GDP) (Johnson, 2018).

To combat this problem, the United Nations Convention against Corruption (UNCAC) was adopted by the UN General Assembly on 31 October 2003 to be the legally binding universal anti-corruption instrument at the international level.<sup>7</sup> This Anti-Corruption Convention covers five main areas; preventive measures, criminalization and law enforcement, international cooperation, asset recovery, and technical assistance and information exchange. Additionally, it also covers many different forms of corruption, such as bribery, trading in influence, abuse of functions and various acts of corruption in the private sector.<sup>8</sup>

A tool for the investigation of corruption cases could be found under Article 50 (1) of the UNCAC, which states that;

In order to combat corruption effectively, each State Party shall, to the extent permitted by the basic principles of its domestic legal system and in accordance with the conditions prescribed by its domestic law, take such measures as may be necessary, within its means, to allow for the appropriate use by its competent authorities of controlled delivery and, where it deems appropriate, other special investigative techniques, such as electronic or other forms of surveillance and undercover operations, within its territory, and to allow for the admissibility in court of evidence derived therefrom. (UNCAC 50(1))

Thus, it could be seen that the use of controlled delivery, electronic or other forms of surveillance and undercover operations has been recommended as effective legal instruments in order to collect criminal evidence in corruption cases for member states of the convention. Consequently, most of the member states of the UN responded positively to this Convention. At present, there are 186 states parties in this convention (UNODC, 2018).

Similar to most countries of the world, Thailand also responded positively to this Convention by giving signatory on 9 Dec 2003 and ratified it on 1 Mar 2011 (UNODC, 2018). And from 21 July 2018, the new Supplementing the Constitution Relating to the Prevention and Suppression of Corruption Act B.E. 2561 (2018) has been promulgation as a main specific legislation to combat public sector's corruption in the country.<sup>9</sup> This Act provides many inquiry measures to combat corruption in public sectors such as an arrest without warrant,<sup>10</sup> the use of video-recording in an examination of witness or person who giving testimony<sup>11</sup> and the powers to issue an order of temporary seizure or freezing of suspect's property.<sup>12</sup> However, it should be noted that the use of special investigative techniques in Article 50 (1) of the UNCAC has not yet been recognised under this Act.

## **RESEARCH OBJECTIVES**

1. To investigate the concept and the development of the use of special investigative techniques of Article 50 (1) of the UNCAC in Thailand and in foreign countries.

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<sup>7</sup> The United Nations Convention Against Corruption (adopted 31 October 2003 UNGA Res A/58/422)

<sup>8</sup> *ibid*

<sup>9</sup> The Organic Act on Anti-Corruption B.E. 2561 (THA)

<sup>10</sup> The Organic Act on Anti-Corruption B.E. 2561 (THA) s61

<sup>11</sup> The Organic Act on Anti-Corruption B.E. 2561 (THA) s67

<sup>12</sup> The Organic Act on Anti-Corruption B.E. 2561 (THA) s69

2. To compare Thai law and its legislation regarding special investigative techniques of Article 50 (1) of the UNCAC with other foreign countries' law.
3. To explore the legal measures regarding the protection of human rights and freedom for people who have been affected from the use of special investigative techniques of Article 50 (1) of the UNCAC in other developed countries.
4. To explore the concepts and theories in order to provide solutions to social problems concerning to corruption in public sectors of Thailand.
5. To examine the guidelines for amendment, improvement and development of the use of special investigative techniques of Article 50 (1) of the UNCAC in Thailand in order to effectively solve the corruption in public sectors of the country and as to advance to the level of other developed countries.

### **RESEARCH METHOD**

Documentary Research was used to conduct this research. The documentary research involves a compilation of information gathered from textbooks, documentary, legal explanation, legal provision, relevant research, related case study from Thailand and other countries, and information gathered from electronic resources. Subsequently, collected information will be analysed and processed in order to provide recommendations.

#### **The Issue of Corruption in Public Sectors of Thailand**

Generally, the word “corruption” could be defined as the abuse of entrusted power for private gain (Transparency International, 2018). Corruption may occur in both public and private sectors. However, when people discuss corruption in general, they are usually referring to corruption in the public sectors (Congram, Bell and Lauchs, 2013).

As for Thailand, traditionally, corruption in the public sectors has always been compared to a parasitic plant, which leeches wealth from the country. According to the report on corruption in public departments, made by the Secretariat of the House of Representatives of Thailand in 2013, corrupted officials in the public sectors gain illegal benefit from the wrongful exercise of their duties to the tune of 300 billion Baht each year. The Royal Thai Police, politicians, the Thai Customs, the Revenue Department and the Department of Lands were reported to be the most corrupted public sectors of the country respectively.

From an international perspective, in 2017, Thailand was ranked 96 of 180 countries from all over the world in the Corruption Perceptions Index (CPI). Which is a survey conducted by Transparency International, which is an international non-governmental organisation established to combat global corruption and prevent criminal activities arising from corruption (Transparency International 2018). The CPI ranks countries by their perceived levels of public sector corruption according to experts and business people. In this case, Thailand scores only 37 out of 100 in the Corruption Index, which is below the average worldwide score of 43. Thailand's score looks even worse when compared to the average score of 66 among countries of Western Europe, noted that the higher score here means less corruption.

The policymakers in Thailand also concern about this situation. Consequently, the Supplementing the Constitution Relating to the Prevention and Suppression of Corruption Act Corruption B.E. 2542 (1999) was repealed and replaced by the Supplementing the Constitution Relating to the Prevention and Suppression of Corruption Act B.E. 2561 (2018). Despite this Act fulfils the mandatory provisions of the UNCAC, it still does not recognise the special investigative techniques of Article 50 (1) of the UNCAC, which are recommended as special tools to combat corruption.

### **The Special Investigative Techniques under Article 50 (1) of the UNCAC**

According to Article 50 (1), the special investigative techniques composite of the use of controlled delivery, electronic or other forms of surveillance and undercover operations. These investigative techniques are not brand-new, on the contrary, they have been used as effective tools to combat many complex crimes including corruption cases by law enforcement officials around the world for many years (McClean, 2007). The detail of these special investigative techniques will be examined below.

#### **Controlled Delivery**

The definition of this special investigative technique is stated in Article 2 (i) of the UNCAC, which states that “(i) *“Controlled delivery” shall mean the technique of allowing illicit or suspect consignments to pass out of, through or into the territory of one or more States, with the knowledge and under the supervision of their competent authorities, with a view to the investigation of an offence and the identification of persons involved in the commission of the offence;*”. From the definition in Article 2 (i) of the UNCAC, it could be seen that this special investigative technique is created to circumvent the limitations of conventional investigative techniques because, in general, if law enforcement officials intercept suspect or illicit goods, the suspect will be arrested and the illicit goods will be seized by officers. Typically, the state would therefore only arrest and prosecute the low-ranking operators of corruption groups. Conversely, with the use of controlled delivery, which allows people or illicit goods to continue the journey to their destination under the strict observation of officers, the law enforcement officials may have more opportunity to arrest high-ranking criminals in corruption groups (The Asia and Far East Institute for the Prevention of Crime and the Treatment of Offenders, 2011).

#### **Undercover Operations**

The UNCAC itself does not provide a definition of undercover operations in it. Nonetheless, the definition of undercover operations can be found in the Resource Material Series, No. 58, of the United Nations Asia and Far East Institute for the Prevention of Crime and the Treatment of Offenders (UNAFEI) which concludes that the definition of undercover operation is: “*an investigation involving a series of related undercover activities (investigative activities involving the use of an assumed name or cover identity) by an undercover employee (agent) over a period of time. It may take a very short duration and last for only a few hours; however, it may be quite lengthy and last for a few years. It may be directed at only a single crime incident, or a long-term criminal enterprise. Through such undercover operations, law enforcement agents are able to infiltrate the highest levels of organized crime groups by posing as criminals when real criminals discuss their plans and seek assistance in committing crimes.*” (Kitada, 2001). According to the definition of the UNAFEI, differences types of undercover operations are investigative instruments which will help law enforcement officials to infiltrate criminal groups. By imposing these tech-

niques, law enforcement officials can elicit not only criminal evidence, which will could be used to incriminate the high-rank members of criminal groups in criminal proceedings but also the criminal group's plans which are useful for law enforcement officials seeking suitable methods to counter them.

### **Electronic or Other Forms of Surveillance**

There is nothing as effective at proving a criminal offence as the offender's own words, thus, law enforcement officials from all over the world have spent many years developing techniques to intercept communications between criminals and have used the results as evidence to incriminate them in criminal proceedings (Kitada, 2001). Although surveillance is recognised as one of the special investigative techniques recommended under Article 50 (1) of the UNCAC, the Convention does not provide its definition. This is because it is difficult to find a perfect definition of the use of surveillance in the context of one of the special investigative techniques to combat corruption. Nevertheless, the UNODC document of current practices in electronic surveillance, in the investigation of serious and organised crime, had defined the use of surveillance in the investigation of serious and organized crime as *"Surveillance (or "electronic surveillance") is rarely itself defined in the legislation delineating its use. Instead, relevant provisions will often provide a definition of "intercept", "communication" and other more device-specific definitions, which range from succinct to complex. For the purposes of this document, and in the context of law enforcement, surveillance is the collection or monitoring of information about a person or persons through the use of technology."* (The United Nations on Drugs and Crime, 2009). Hence, this research will be relied on the definition of surveillance as the use of any kind of technology to collect or monitor information about a person or persons who is involved in the activities of corruption in public sectors.

### **The Lack of Special Investigative Techniques in the New Supplementing the Constitution Relating to the Prevention and Suppression of Corruption Act B.E. 2561 (2018)**

In Thailand, serious crimes which are perpetrated by corruption networks in public sectors are generally more difficult to investigate than those serious crimes operated by private organised crime groups because most of the evidence, which can be used to incriminate these corrupt officials in criminal offences, rests in their own hands. Hence, the use of conventional investigative techniques such as an interview, arrest and search, cannot combat these corruption criminals effectively. As a result, special investigative techniques under Article 50 (1) of the UNCAC should be considered for the imposing as legal tools to investigate public sector's corruption cases in Thailand as well as in other complex criminal cases.

The National Anti-Corruption Commission (NACC) has already, in fact, realised the effectiveness of these special investigative techniques under Article 50 (1) of the UNCAC. As in December 2017, these special investigative techniques were added in a new draft of the Act Supplementing the Constitution Relating to the Prevention and Suppression of Corruption presented to the National Legislative Assembly. Nonetheless, this issue was strongly debated by many members of the National Legislative Assembly. The main concerns about this debate were its effect on the fundamental rights of people and the misuse of these techniques as instruments to vanquish political opponents. Although, Police General Watcharapol Prasarnrajkit, the president of the NACC, argued that the NACC really needed these special investigative powers to combat public sector's corruption. As he also

confirmed that there are many mechanisms to control the fair use of these special investigative techniques in the new anti-corruption law (Khaosod, 2017). Unfortunately, at the end the President of the National Legislative Assembly decided to withdraw these special investigative techniques from the new anti-corruption law to stop the controversial (Thai Public Broadcasting Service, 2017).

It should be noted that this was not Thailand's first attempt to enact these special investigative techniques into a specific law. On the contrary, these special powers have already been enacted by many specific acts of the country such as the Special Case Investigation Act B.E. 2547, the Prevention and Suppression of Transnational Organized Crime Involvement Act B.E. 2556 and the Procedure for Human Trafficking Cases Act B.E. 2559. Hence, the only way in which the new anti-corruption law is different from other specific Acts is that this Act would permit the imposing of these special investigative techniques directly against suspect politicians and high-ranking officials of the country.

### **The Current Thai Law Relating to Special Investigative Techniques and Problems with the Integration of the Use of Special Investigative Techniques in Thailand**

Although, the special investigative techniques are not recognised under the Supplementing the Constitution Relating to the Prevention and Suppression of Corruption Act B.E. 2561 (2018) which is the main legislative to combat corruption in public sectors in Thailand, the use of controlled delivery, undercover operations and electronic or other forms of surveillance, under Article 50 (1) of UNCAC, has been recognised in other specific laws in Thailand. However, the legislators did not put all of these special investigative techniques together in every relevant law. The poor integration of these techniques can hinder operations against serious crime offences. Their secondary status as objects in specific legislation is another concern in the use of these special investigative techniques. In Thailand, specific offences have primary status as the main subject in every specific Act relating to criminal offences. Hence, legislators introduce these special investigative measures into each specific Act where such measures might be useful legal instruments to combat complex crime. A legislative technique like this is outdated and not flexible enough to combat complex crime, includes the corruption in public sectors.

Moreover, as the special investigative techniques are dispersed across various individual acts of legislation, thus, in practice, the separation of these special investigative techniques may reduce their efficacy in the fight against the corruption in public sectors because, although these special investigative techniques can be used individually, they will perform optimally only when used together, alongside other techniques. Without the integration of these special investigative techniques, this means that law enforcement officials in Thailand may face genuine difficulties when fighting some kinds of complex crime. The table below displays examples of the use of controlled delivery, undercover operations and electronic surveillance which are recognised under specific acts of legislation in Thailand.

**Table 1.**

*Special Investigative Techniques of Article 50(1) of UNCAC in Specific Acts of Legislation in Thailand.*

Specific Laws	Controlled Delivery	Undercover Operations	Electronic Surveillance
Drug Case Procedure Act B.E. 2550 (2007)	√	√	√ (only in the case of extraction of any computer data)
Prevention and Suppression of Transnational Organized Crime Involvement Act B.E.2556 (2013)	√	√	√
Special Case Investigation Act B.E. 2547 (2004)	—	√	√ (only the interception of communication)
Narcotics Control Act B.E. 2519 (1976)	—	—	√ (only the interception of communication)
Anti-Money Laundering Act B.E. 2542 (1999)	—	—	√ (only the interception of communication)
Anti-Trafficking in Persons Act B.E.2551(2008)	—	—	√ (only the interception of communication)

From these six specific examples of legislation in Thailand, in the table above, it can be seen that controlled delivery technique is an approved special investigative technique in only two specific examples of legislation (the Drug Case Procedure Act B.E. 2550 (2007)<sup>13</sup> and the Prevention and Suppression of Transnational Organized Crime Involvement Act B.E.2556 (2013)<sup>14</sup>). In the case of the undercover operations technique, this special investigative approach has been recognised in only three specific acts of legislation (the Drug Case Procedure Act B.E. 2550 (2007)<sup>15</sup>, the Prevention and Suppression of Transnational Organized Crime Involvement Act B.E.2556 (2013)<sup>16</sup>, and the Special Case Investigation Act B.E. 2547 (2004)<sup>17</sup>). Lastly, in the case of the electronic surveillance technique, although use of it has been permitted as a special investigative technique in every specific act of legislation in this table, most of them restrict its use only to the interception of any communication of the suspects.<sup>18</sup> The Prevention and Suppression of Transnational Organized Crime Involvement Act B.E.2556 (2013) is the only specific act of legislation which empowers law enforcement officials to use telecommunication or electronic devices when trailing a suspect.<sup>19</sup>

From the information above, it can be deduced that the Drug Case Procedure Act B.E. 2550 (2007) and the Prevention and Suppression of Transnational Organized Crime Involvement Act B.E.2556 (2013) are the only two specific acts of legislation which combine all of these special investigative techniques. However, electronic surveillance, under the Drug Case Procedure Act B.E. 2550 (2007), can be used only in the case of extraction of any computer data and this Act does not authorise law enforcement officials to use telecommunication or electronic devices when trailing a suspect.<sup>20</sup> Under this Act, a special investigative technique can be used only to investigate drug-related crime. None of them can be applied to other complex criminal offences, including the corruption in public sectors.<sup>21</sup> The Prevention and Suppression of Transnational Organized Crime Involvement Act B.E.2556 (2013) is the only specific Act which allows law enforcement officials to use all of these special investigative techniques without significant limitations. However, with the unwise legislation of this Act by the policy makers of Thailand, the use of special investigative techniques can be applied only to cases which are considered to involve transnational organised crime.

In other developed countries, the law enforcement officials are permissible to impose special investigative techniques under Article 50 (1) of the UNCAC as legal tools directly to combat corruption in public sectors. In this research, the use of these special investigative techniques to combat public sector's corruption in the United Kingdom (England and Wales), the United States of America and the Netherlands will be used as the benchmark for the development of

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<sup>13</sup> The Drug Case Procedure Act B.E. 2550 (THA) s 8

<sup>14</sup> The Prevention and Suppression of Transnational Organized Crime Involvement Act B.E.2556 (THA) s 20

<sup>15</sup> The Drug Case Procedure Act B.E. 2550 (THA) s 7

<sup>16</sup> The Prevention and Suppression of Transnational Organized Crime Involvement Act B.E.2556 (THA) s 19

<sup>17</sup> The Special Case Investigation Act B.E. 2547 (THA) s 27

<sup>18</sup> The Drug Case Procedure Act B.E. 2550 (THA) s 10, the Prevention and Suppression of Transnational Organized Crime Involvement Act B.E.2556 (THA) s 17, The Special Case Investigation Act B.E. 2547 (THA) s 25, The Narcotics Control Act B.E. 2519 (1976) s 14 Fourth, the Anti-Money Laundering Act B.E. 2542 (THA) s 46, The Anti-Trafficking in Persons Act B.E.2551 (THA) s 30

<sup>19</sup> The Prevention and Suppression of Transnational Organized Crime Involvement B.E.2556 (THA) s 21

<sup>20</sup> The Drug Case Procedure Act B.E. 2550 (THA) s 10

<sup>21</sup> The Drug Case Procedure Act B.E. 2550 (THA) s 5

the criminal investigation on corruption case of Thailand, the detail of each country would be critically examined below.

### **Special Investigative Techniques as a Tool to Combat Public Sector's Corruption in the Netherlands**

The Netherlands signed the UNCAC on 10 December 2003 and the convention was tactically approved by the state on 31 October 2006 (United Nations, 2014). According to the report regarding the follow up of the obligations of the UNCAC, all special investigative techniques from Article 50 of the UNCAC are permissible under the Dutch Criminal Procedure Code and being imposed to combat public sector's corruption, moreover, evidence obtained from the special investigative techniques is admissible in the court (United Nations, 2014). Hence, this section would examine the rules on the imposing of the special investigative techniques from Article 50 of the UNCAC to combat public sector's corruption under the Dutch law.

#### **The Netherlands Criminal Justice System and Criminal Investigation Progress**

Prior to the discussion of the Dutch Law relating to the special investigative techniques, a background of the Dutch criminal justice system and criminal investigation progress must be examined first.

The Netherlands is a part of Council of Europe (CoE), thus, the rights and principles underpinning the Dutch system of criminal investigation and justice system follow the European Convention on Human Rights (ECHR) directly since the Netherlands does not have a Constitutional Court. Consequently, the decisions of the European Court of Human Rights (ECtHR) have a significant regulatory influence on the Dutch criminal justice system (Ballin, 2012).

Like Thailand, the Netherlands use civil law legal system. Therefore, the criminal investigation is directly governed by the Dutch Code of Criminal Procedure 1926 (Wetboek van Strafvordering), henceforth referred as "DCCP". It should be noted that prior to the imposing of the current DCCP, the Dutch criminal procedural law had also been strongly influenced by the French system (Ballin, 2012). Apart from the DCCP, the legislation relating to the investigatory power also constitutes under the Dutch Police Act (Politiewet) 1993 and the Dutch Special Powers of Investigation Act (Wet bijzondere opsporingsbevoegdheden), henceforth referred as "Wet BOB", which is now part of the DCCP. The Wet BOB authorises the public prosecutor to lead the criminal investigation. Thus, every special investigative technique can be used once the public prosecutor has issued a warrant. The Wet BOB also provides three undercover powers; covert investigation (infiltration), pseudo purchase/services and systematically obtaining intelligence about suspects through undercover operations. These powers involve situations where an investigating officer is being active around the suspected persons without declaring his identity as investigating officer. Additionally, the Wet BOB also covers all types of surveillance or entering and 'looking into' premises, recording of confidential communications and controlled deliveries.

Furthermore, since the imposing of special investigative techniques also concerns the right to respect for private life according to Article 8 of the ECHR and Article 10 of the Dutch Constitution. Consequently, these provisions must also be taken into consideration. So far, the scope

of the right to respect for private and family life under Article 8(1) of the ECHR is not strict but depends on ‘*present-day conditions and developments in social and political attitudes.*’ (Loof, 2005). The court judgements held that the concept of private life includes someone’s physical and psychological integrity, aspects relating to someone’s personal identity, activities in someone’s private as well as professional life and that it entails a “zone of interaction” with other people which can extend to a public context.<sup>22</sup> Hence, the interpretation is quite flexible to tailor it as per the case fact, additionally, in practice, the ‘reasonable expectation of privacy test’ is also imposed to evaluate.<sup>23</sup> Further, Article 8(2) of the ECHR allows the imposing of the special investigative techniques as long as they are “*in accordance with the law*” and if “*necessary in a democratic society in the interests of national security, public safety or the economic well-being of the country, for the prevention of disorder or crime, for the protection of health or morals, or for the protection of the rights and liberties of others*”.<sup>24</sup> Therefore, in practice, it is the duty of the domestic court to evaluate whether it is in accordance with the law or necessary or not. Apart from the scope of Article 8 of the ECHR, Article 10 of the Dutch constitution also stated that everyone has the right to respect for private life, however, this right could be limited as provided by the law.<sup>25</sup> In practice, the Dutch Supreme Court has in some cases interpreted the scope of the right to private life as being like the reasonable expectation of privacy test of the ECtHR (Ballin, 2012).

### **Controlled Delivery**

Controlled delivery is permissible and may be authorised by a public prosecutor under the Special Powers of Investigation Act as part of the Dutch Code of Criminal Procedure (IMF, 2004). As Article 126ff of the DCCP states;

The investigating officer who is acting in the execution of a warrant as defined in Parts IVa to V inclusive and Vb, shall be obliged to exercise the powers of seizure conferred on him by law, if through the execution of the warrant he comes to know of the location of objects whose presence or possession is prohibited by law due to their harmfulness to public health or their danger to safety. The seizure may be postponed only in the interest of the investigation with a view to carrying it out at a later date. (DCCP Article 126ff)

To summarise, controlled delivery is also permissible to be imposed as a tool in the investigation of public sector’s corruption. Nevertheless, in practice, controlled delivery is usually imposed together with electronic surveillance,<sup>26</sup> however, if being imposed alone, it is mostly imposed on cases concern illegal goods (European Commission, 2015).

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<sup>22</sup> See e.g.: ECHR 24 June 2004, App. no. 59320/00 (Von Hannover v. Germany) para 50 and ECHR 25 September 2001, App. no. 44787/98 (P.G. and J.H. v. The United Kingdom), para 56, ECHR 25 October 2007, App. no. 38258/03 (Van Vondel v. The Netherlands), para 48, and ECHR 2 September 2010, App. no. 35623/05 (Uzun v. Germany), para 43.

<sup>23</sup> ECHR 25 September 2001, App. no. 44787/98 (P.G. and J.H. v. The United Kingdom), para 57 and ECHR 2 September 2010, App. no. 35623/05 (Uzun v. Germany), para 44.

<sup>24</sup> Article 8(2) ECHR

<sup>25</sup> Article 10(1) Constitution of the Kingdom of the Netherlands [Grondwet voor het Koninkrijk der Nederlanden].

<sup>26</sup> European Commission, AMOC report (European Commission 2015) 284

## **Undercover Operations**

Under the Dutch law, undercover operations is permissible, nonetheless, it should be noted that there is no dedicated provision relating to it. Thus, it is derived from either (1) the description of the statutory duty of law enforcement officials to investigate crime according to Article 2 of the Dutch Police Act or (2) the special investigative power for systematic information gathering under the DCCP Articles 141-142 and (2) art. 126j (Oerleman, 2017).

### **The Dutch Police Act Article 2 states;**

The task of the police is to, in subordination to the authorities and complying with applicable law, take care of the actual upholding of the legal order and to supply aid to those who need it. (Dutch Police Act Article 2)

It could be seen that the provision itself is very vague and generally establishes the police power of the investigation of crimes and offences.

Meanwhile, the DCCP only provides a detailed legal basis for systematically performing undercover interactions with individuals as an investigative method within a criminal investigation. Article 126j (1) and (2) of the DCCP, which states;

1. In case of reasonable suspicion of a crime, a public prosecutor can, insofar it is in the interest of the investigation, order a law enforcement official as meant in art. 141(b) DCCP, to systematically gather information about the suspect, without being recognisable as a law enforcement official.
2. The warrant shall be issued for a period of maximum three months. It may be extended for a period of maximum three months each time. (DCCP Article 126j (1))

It could be seen that the text itself does not suggest that the investigative method here includes the undercover operations, but at the same time, it does not specifically exclude this option either. Hence, the liberal interpretation of Article 126j (1) and (2) of the DCCP in the combination of the interpretation of the Article 2 of the Dutch Police Act above make undercover operations legal under the Dutch law.

To initiate undercover operations, a warrant is needed.<sup>27</sup> Noted that the granting of the warrant for undercover operations is an authority of a public prosecutor.

In summary, undercover operations is legal under the Dutch law, despite not being specifically mentioned in the DCCP. Since the liberal interpretation of the provision deems that it is lawful, of course, as long as the warrant is granted for such undercover operation.

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<sup>27</sup> DCCP Article 126j (2)

## Surveillance and Electronic Surveillance

Systematic surveillance is permissible under Article 126g of the DCCP and it could be imposed to investigate a suspicion of the commission of a serious offence. Additionally, infiltration is also permissible under Article 126h, if there is a suspicion of the commission of a serious offence.

Both systematic surveillance and infiltration could be initiated only by a warrant, granted by the prosecutor.<sup>28</sup> Electronic surveillance is permissible under the DCCP Part IVA Special Investigative Powers Chapter 7 “Investigation of Communications by means of Computerised Devices or Systems”. Further, police officers also have the special power to record confidential information,<sup>29</sup> however, this does not include communications that can be picked up without using technical aids, for example, audible conversations in a bar or on the street. Moreover, the recording of confidential communication in a private house is only permitted under strict conditions, which are only if it is urgently required for the investigation if the offence carries a term of imprisonment of eight years or more and the examining magistrate has given explicit authority.<sup>30</sup> Electronic surveillance which are allowed under the DCCP are surveillance on tele and internet communications, which includes bugging a personal computer to access messages before they are sent over the internet or encoded and “scanning” (using a radio receiver to intercept mobile phone conversations) (Kooijmans and Mevis, 213).

To initiate electronic surveillance, a warrant is needed as per the order of the public prosecutor after the examining magistrate has given explicit authority.<sup>31</sup> The electronic surveillance could be imposed for the investigation of offences which have been committed and includes the attempt or preparation to commit offences also.

It should be noted that surveillance is only allowed if such crime is considered “serious crime” under the DCCP, which composites of “*a. a serious offence which carries a statutory term of imprisonment of at least four years; b. any of the serious offences defined in sections 132, 138a, 138ab, 138b, 139c, 139d(1) and (2), 141a, 161sexies(1)(1<sup>o</sup>) and (2), 137c (2), 137d(2), 137e(2), 137g(2), 184a, 254a, 248d, 248e, 285(1), 285b, 300(1), 321, 323a, 326c(2), 350, 350a, 351, 395, 417bis and 420quater of the Criminal Code; c. any of the serious offences defined in: section 122(1) of the Animal Health and Welfare Act; section 175(2)(b) or (3) in conjunction with (1)(b) of the Road Traffic Act 1994; section 30(2) of the Civil Authority Special Powers Act ; sections 52, 53(1) and 54 of the Conscientious Objections against Military Service Act; section 31 of the Betting and Gaming Act; section 11(2) of the Opium Act; section 55(2) of the Weapons and Ammunition Act; sections 5:56, 5:57 and 5:58 of the Financial Supervision Act; section 11 of the Temporary Home Exclusion Order Act*”.<sup>32</sup> Which means that a basic public sector’s corruption cases, such as giving or offering bribery to a public servant or judge<sup>33</sup> or vice-versa in a case of those public servant or judge received

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<sup>28</sup> DCCP Article 126g and 126h

<sup>29</sup> DCCP Art. 126l, art. 126s and art. 126zd

<sup>30</sup> *ibid*

<sup>31</sup> DCCP 126m-126nb

<sup>32</sup> DCCP Article 67(1)

<sup>33</sup> Criminal Code (Wetboek van Strafrecht) Article 177-178

bribery,<sup>34</sup> alone would not be enough to initiate electronic surveillance since they are not fitted within the definition of the DCCP's "serious crime". In this sense, to initiate electronic surveillance for investigating public sector's corruption cases, those corruption cases must be related to the above "serious offences", for example, threat against public order offence (132), computer trespassing offence (138ab) or unlawfully intercepting computer data or telecommunications offence (139c).

In conclusion, although surveillance is legal under the Dutch law, to impose it in the investigation of public sector's corruption is quite tricky. Because as mentioned above, that basic cases of public sector's corruption themselves are not eligible to initiate surveillance. Hence, unless they are being investigated in combination with those "serious offences" under the DCCP, surveillance could not be directly imposed to investigate public sector's corruption.

### **Special Investigative Techniques as a Tool to Combat Public Sector's Corruption in the England and Wales**

England and Wales as a part of the United Kingdom signed the UNCAC on 9 December 2003 and subsequently ratified it on 9 February 2006 (United Nations, 2011). According to the self-assessment report, all special investigative techniques of Article 50 of the UNCAC are permissible under England and Wales law and being effectively imposed to combat public sector's corruption. In addition, special organisation like the National Crime Agency (NCA) is also tasked with the combat of public sector's corruption (NCA, 2019). Hence, this section aims to examine domestic laws in England and Wales concerning the imposing of special investigative techniques to combat public sector's corruption.

#### **The Principle of the England and Wales Criminal Justice System**

England and Wales is part of the United Kingdom, which is part of a common law legal system. Thus, sources of law could be found in both case law and legislation.

Moreover, since England and Wales (under the U.K.), is also part of Council of Europe (CoE),<sup>35</sup> this means that England and Wales domestic laws must also be compliance with the CoE law. Consequently, the domestic laws must follow the European Convention on Human Rights (ECHR) and they must be bound by the decisions of the European Court of Human Rights (ECtHR). Therefore, like the Netherlands, right to respect for private life according to Article 8 of the ECHR must also be compliance.

#### **Controlled Delivery**

Although the use of controlled delivery is permissible in England and Wales, there is no specific legislation governed this technique. Therefore, in practice, the use of controlled delivery has been operated across their frontiers by cooperation between law enforcement sections

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<sup>34</sup> *ibid* Article 362-364

<sup>35</sup> As this article being written now in April 2019.

such as the HM Revenue and Customs (HMRC), the Serious Organised Crime Agency<sup>36</sup> and the Association of Chief Police Officers<sup>37</sup> (Campbell, 2013).

Without specific legislation on controlled delivery, the authorisation of controlled delivery operations depends on the law enforcement agency's own guidelines. These require law enforcement officials to present a rationale and supporting evidence to legitimise the operation, brief details of suspects (name, date of birth, domicile, nationality, description), of the operation (relevant authorities and any special techniques proposed) and of the illegal goods, quantity and destination, as minimum requirements (College of policing, 2012). In this sense, this means that controlled delivery could be imposed to investigate corruption cases also.

To sum up, controlled delivery is legal and could be imposed to investigate public's sector corruption case in England and Wales. And since there is no specific legislation governing it, it is then quite flexible to impose.

### **Undercover Operations**

Undercover operations is permissible under England and Wales according to Section 26(8) Regulation of Investigatory Powers Act (RIPA) 2000. Under the RIPA, two forms of undercover operations are permissible, which are the using covert human intelligence sources (CHIS) or informers.

To imitate undercover operations, the authorisation from senior officers in the concerned public authorities is needed. The authorised will be granted with proportionality only in cases where necessary in the interests of national security, the purpose of preventing or detecting crime or of preventing disorder, the interests of the economic well-being of the UK, the interests of public safety, the purpose of protecting public health, the purpose of assessing or collecting any tax, duty, levy or other imposition, contribution or charge payable to a government department or anything else specified in an order made by the Secretary of State. Thus, if being lawfully authorised, any information which is obtained or disclosed by CHIS may be used as criminal evidence to incriminate a suspect in a criminal case, for intelligence purposes or for both. In this sense, since the ground of the authorisation is quite vague, if it is necessary then it is possible to impose undercover operations on the investigation of public sector's corruption also.

In conclusion, undercover operations is legal in England and Wales and could be imposed in the investigation of public sector's corruption. Furthermore, the authorisation process is not quite complex since it only requires the authorisation from 'senior officers' from the authority that is responsible for the operation.

### **Surveillance and Electronic Surveillance**

Covert surveillance is permissible under Section 26 of Regulation of Investigatory Powers Act (RIPA) 2000. There are two permissible type: directed surveillance and intrusive surveil-

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<sup>36</sup> SOCA was replaced by the National Crime Agency (NCA) in 2013

<sup>37</sup> ACPO, replaced by the National Police Chiefs' Council (NPCC) in 2015

lance.<sup>38</sup> Directed surveillance is used to collect or obtain private information about a person in a public place.<sup>39</sup> Generally, this technique is a covert, but not intrusive, operation enacted in a public place to monitor a specific individual who is suspected due to behaviour or to interactions with other criminals. It may involve monitoring a house, a workplace or following personal activities (Campbell, 2013). In contrast, intrusive surveillance is a covert surveillance technique, which is operated with or without the use of surveillance devices, within any residential premises or in any private vehicle.<sup>40</sup> Usually, the authorised officers will enter private places, or private vehicles, to install surveillance devices or to insert a covert officer to monitor the suspect. This special investigative technique can help law enforcement officials to overhear or observe confidential information about the suspect which may be used to incriminate him in a criminal case (Campbell, 2013).

In the case of directed surveillance, authorisation shall not be granted by the designated persons unless they believe that it is necessary on grounds falling within Section 28 (3) and it is proportionate to the outcomes sought by carrying it out.<sup>41</sup> Under section 28 (3), there are many reasons for law enforcement officials to ask for authorisation, including whether it is necessary in the interests of national security, for the purpose of preventing or detecting crime, of preventing disorder or in the interests of the economic well-being of the UK.<sup>42</sup> In the case of intrusive surveillance, a covert surveillance technique which is operated in any residential premises or in any private vehicle, the Secretary of State and each of the senior authorising officers in Section 32 (6) shall have power to grant authorisations for the carrying out of intrusive surveillance.<sup>43</sup> There are many senior authorising officers who are in charge of the authorisation of intrusive surveillance under Section 32 (6) such as Chief Constables of police forces in England, Wales and Scotland, the Commissioner and Assistant Commissioners of Police of the Metropolis, the Director General of SOCA (NCA) and any designated members of the SOCA (NCA) or any designated senior officer of Revenue and Customs (HMRC).<sup>44</sup> These designated persons shall not grant an authorisation for the carrying out of intrusive surveillance unless they believe that the authorisation is necessary in the interests of national security, for the purpose of preventing or detecting serious crime or in the interests of the economic well-being of the UK<sup>45</sup> and it is proportionate to outcomes sought by carrying it out.<sup>46</sup> It can be noticed that the necessary grounds of intrusive surveillance are limited to only three reasons because this type of surveillance may affect the privacy and property rights of the people.

Meanwhile, electronic surveillance is permissive under England and Wales' Investigatory Powers Act (IPA) 2016, which provides investigative powers for state authorities, such as targeted interception of communications, bulk collection of communications data and bulk inter-

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<sup>38</sup> Regulation of Investigatory Powers Act 2000 s 26 (1)

<sup>39</sup> Regulation of Investigatory Powers Act 2000 s26 (2)

<sup>40</sup> Regulation of Investigatory Powers Act 2000 s 26 (3)

<sup>41</sup> Regulation of Investigatory Powers Act 2000 s 28

<sup>42</sup> Regulation of Investigatory Powers Act 2000 s 28 (3)

<sup>43</sup> Regulation of Investigatory Powers Act 2000 s 32

<sup>44</sup> Regulation of Investigatory Powers Act 2000 s 32 (6)

<sup>45</sup> Regulation of Investigatory Powers Act 2000 s 32 (3)

<sup>46</sup> Regulation of Investigatory Powers Act 2000 s 32 (2)

ception of communications, to obtain data about communications by suspects using digital technology (Home Office, 2017).

To initiate electronic surveillance, an interception warrant has to be issued by the Secretary of State and it must be first reviewed and approved by the Judicial Commissioner before coming into force, this is called a ‘double-lock’ authorisation procedure to act as a safeguard for the authorisation of interception warrants (Statewatch, 2017). The evaluation of granting the warrant would be based on the ‘limited number of purposes’, which are the interests of national security, the purpose of preventing or detecting serious crime or the interests of the economic well-being of the United Kingdom so far as those interests are also relevant to the interests of national security.<sup>47</sup> The acquired content from the lawful interception would be then admissible at the trial.<sup>48</sup>

Although the RIPA and IPA does not specifically state that surveillance could be imposed to investigate public sector’s corruption cases as it provides rather general causes than specific, it does not specifically exclude it either. Which means that if such corruption cases fit within the ‘limited purpose’, for example, a public sector’s corruption case that concerns the interests of the economic well-being of the UK, electronic surveillance is well may be used in that case.

To summarise, in England and Wales surveillance could be used to investigate public sector’s corruption cases. The covert surveillance only need the authorisation from the designated person, while the interception warrant is needed to impose electronic surveillance and the warrant-issuing is being subjected under the ‘double-lock’ authorisation from Secretary of State and Judicial Commissioner, which implies that it would be subjected to critically review before granted. In this sense, if the case is not highly significant, it would be unlikely that electronic surveillance warrant would be granted.

### **Special Investigative Techniques as a Tool to Combat Public Sector’s Corruption in the United States**

The United States signed the UNCAC on 9 September 2003 and had ratified it with some restrictions on 30 October 2006 (United Nations, 2012). According to the report regarding the follow up of the obligations of the UNCAC, special investigative techniques of Article 50 of the UNCAC are permissible under the U.S. law and being imposed by Department of Justice (DOJ) in the federal level in a battle against public sector’s corruption (United Nations, 2012). Further, one of the federal agencies, the Federal Bureau of Investigation (FBI) under the umbrella of the DOJ, also marked public sector’s corruption as its top investigatory priority (FBI, 2019). Thus, this section aims to critically examine the details of law relating to the imposing of the special investigative technique to combat public sector’s corruption in the United States.

### **The Principle of the U.S.’ Criminal Justice System**

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<sup>47</sup> Investigatory Powers Act 2016 s 20

<sup>48</sup> Investigatory Powers Act 2016 s 18

Before examining the special investigative techniques in detail, the principle of the U.S.' criminal justice system must be first explored since it will later contribute to the evaluation of the imposing of the special investigative techniques.

United States is part of Common Law legal system, thus, apart from legislation, the case law also governing the imposing of special investigative techniques. Nonetheless, the U.S.' criminal justice system is very much regulated by the U.S. Constitution, specifically, the First, Fourth, Fifth and Sixth Amendments. These provisions, which are relating to the protection of individual liberties, are usually referred to as the "Bill of Rights" (Ballin, 2012).

The provision that is directly related to the imposing of the special investigative techniques is the Fourth Amendment of the U.S. Constitution, which states;

The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no warrants shall issue, but upon probable cause, supported by oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized. (U.S. Constitution, Amendment IV)

The Fourth Amendment focus on the basic right of privacy and is considered a heart of criminal procedure law relating to search and seizures (Cornell LII, 2019). But the heavily protection of basic right of privacy of the Fourth Amendment also means that it imposed negative duties on the state to refrain from certain actions in the criminal law context to protect civil liberties. Consequently, the Fourth Amendment plays a crucial role in the evolution of the imposing of the special investigative techniques since it has to balance between individual's right of privacy and the interest of the state's investigation, which could violate such privacy. In addition to the Fourth Amendment, the imposing of the special investigative techniques is also governed by the Federal Criminal Procedure Code, which will be discussed in detail later.

### **Controlled Delivery**

Firstly, it should be noted that under the U.S. regime, controlled delivery is normally discussed in the context of the law regarding entrapment and since it was held that controlled delivery does not constitute entrapment, thus, make it legal (Ferguson, 2018).

Interestingly, although controlled delivery is permissible under the U.S. law, it is not being legislated but its legality is based upon the case law (Adams, 1990). As it was held that controlled delivery is permissible under the Fourth Amendment of the U.S. Constitution and Rule 41 of the Federal Rules of Criminal Procedure.<sup>49</sup> Consequently, make it routinely and lawfully undertaken by U.S. law enforcement (UNODC, 2011).

A recent case law that concerns controlled delivery is the U.S. Supreme Court's decision in *United States v. Grubbs*, in which the court held that the defendant's conviction based on a

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<sup>49</sup> Rule 41 concerns search and seizure, read more about Rule 41 at <https://www.justia.com/criminal/docs/frcrimp/rule41/>

controlled delivery of contraband and found that an "anticipatory search warrant" was constitutional under the Fourth Amendment of the U.S. Constitution, hence, make it lawful.

To initiate controlled delivery, a warrant from the court is needed. To grant the warrant, the 'reasonableness Fourth Amendment approach' test is imposed. In the evaluation of whether it is reasonable or not, apart from the fact, the Court also considers other options available to achieve the goals contemplated by approval of the controlled delivery process. Nevertheless, it should be noted that the availability of viable options alone will not necessarily render a search unreasonable.<sup>50</sup> Further, the Supreme Court has interpreted that the Fourth Amendment also allows some exceptional situations searches and seizures can be reasonable despite the absence of probable cause or a warrant (Ballin, 2012).

In conclusion, controlled delivery is legal under the U.S. law and a warrant from the Court is needed to engage controlled delivery. Such warrant would be issued if the Court had evaluated that employing controlled delivery is reasonable and necessary for such case, nonetheless, noted that even controlled delivery was conducted without the warrant, it could still be legal and thus, make the obtained evidence admissible at the trial, as the Court sometimes allow some exceptional cases. Hence, it is fair to state that the rule of granting a warrant to impose controlled delivery and the admissibility of the evidence obtained from controlled delivery are quite flexible.

### **Undercover Operations**

Like controlled delivery, despite undercover operations is legal under the U.S. law, it is not being legislated. As it was legalised under the case law of *Lewis v. U.S*, in which it was held that undercover operations is not in violation of the Constitution (the Fourth Amendment). Apart from the landmark case, undercover operations is also governed by Rule 41 of the Federal Criminal Procedure Code regarding search and seizure.

To initiate undercover operations, a warrant from the court is needed. However, the rule of warrant issuing is rather relaxed since the court has held that the Government do not need to have reasonable suspicion or probable cause of criminal activity or evidence incriminating a particular person or specific crime before initiating an undercover investigation.<sup>51</sup>

In practice, investigators need to define the operation perimeter. However, due to the diversity and uncertainty of undercover work, it often precludes the creation of such fixed rules for it. Therefore, undercover operations is mostly being relied on the internal guidelines, which set forth by federal agencies in response. Federal agencies that use guidelines for undercover operations include the FBI, United States Fish and Wildlife Service (USFWS), Internal Revenue Service (IRS) and Drug Enforcement Administration (DEA) (FBI, 1987). The FBI's guidelines are accepted to be the most detailed than those of others (Wagner, 2007). According to the guidelines, other than in cases of self-defence, they also prohibit acts of violence and conduct that would constitute unlawful investigative techniques. It also places limitations on investigations targeting political figures, religious organisations, medical staff, law firms and media corporations. The purpose of such limitations is to protect the privileged communica-

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<sup>50</sup> *Zurcher* 436 U.S. at 559

<sup>51</sup> *US v Gamble* 737 F 2d 853 (10th Cir 1984)

tions involving clergy, physicians and attorneys. Its key provisions include an approval process and monitoring undercover agents that have the potential of becoming involved in criminal activities, invasion of privacy, and relationships with innocent third parties (Attorney General, 2002).

Additionally, as relating to the undercover operations, the court had held that the Fourth Amendment does not protect an individual's misplaced confidence that a person to whom he or she discloses information will not later reveal it.<sup>52</sup> Thus, this decision makes the evidence obtained from undercover operations admissible during the trial.

In summarise, undercover operations is legal under the U.S. law, although apart from the legality granted from the case law under the regime of the Fourth Amendment and Rule 41 of the Federal Criminal Procedure Code, there is no fixed rule governing undercover operations. Once the warrant is granted, the operation is being supervised by the federal agency in control of such operation. And as noted that it is quite easy to obtain a warrant for undercover operations since there is no need to have fixed 'reasonable' grounds to initiate such operation.

### **Surveillance and Electronic Surveillance**

Surveillance is permissible under the principle of the Fourth Amendment and being governed by the case of *Katz v. United States*<sup>53</sup> under the 'reasonable expectation of privacy' test'. The test focuses on two prongs: first that a person have exhibited an actual (subjective) expectation of privacy and, second, that the expectation be one that society is prepared to recognize as 'reasonable'. Additionally, in the latter precedent cases, the court also held that there is no reasonable expectation of privacy in one's movements in public space<sup>54</sup> and that the police could have freely followed and observed the suspects on public roads and highways without getting a warrant.<sup>55</sup>

Nonetheless, electronic surveillance is being strictly governed by the legislation. Apart from the principle of the Fourth Amendment, the Electronic Communications Privacy Act (ECPA) of 1986 is the main legislation governing the interception and monitoring of electronic communications in the United States.

Title III of the ECPA addresses pen register and trap and trace devices, which make Title III of the ECPA sometimes being referred to as 'Pen Register and Trap and Trace Statute'. A pen register is a device that captures the called numbers and information related to the calls made by the subject, while a trap and trace device captures the number and related information for incoming calls to the subject or known as caller ID information (Martin and Cendrowski, 2014). According to Sections 2510-2522 (Title III) of the ECPA, electronic surveillance in-

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<sup>52</sup> *Lopez v US* 373 U.S. 427 (1963)

<sup>53</sup> 389 U.S. 347, 351 (1967)

<sup>54</sup> *United States v. Karo*, 468 U.S. 705, 707 (1984) (considering the constitutionality of using a beeper for surveillance); *United States v. Knotts*, 460 U.S. 276, 277 (1983) (considering the constitutionality of using a concealed beeper to trace a can of chloroform from its place of purchase to a secluded cabin).

<sup>55</sup> *United States v. Cuevas-Perez*, 640 F.3d 272, 273–74 (7th Cir. 2011); *Christensen v. Cty. of Boone*, 483 F.3d 454, 460 (7th Cir. 2007); *United States v. Walker*, 771 F. Supp. 2d 803, 810 (W.D. Mich. 2011).

cludes the interception of wire, electronic and oral communications. Noted that the electronic surveillance allowed under the ECPA include both telephone and Internet communications.<sup>56</sup>

To initiate the electronic surveillance or to install a pen register or trap and trace device, the court order is needed and this is has to be done under Chapter 119 of the Criminal Procedures.<sup>57</sup> Nevertheless, noted that there is no requirement for independent judicial review of the facts in the evaluation of issuing the warrant, as the current case law and statues allow the federal agency to use the discretion of when it is appropriate to impose electronic surveillance.<sup>58</sup> Lastly, the warrant authorising a pen or trap device are only limited to the jurisdiction of the court that granted that warrant. If the electronic surveillance had been done in compliance with the requirement of the law, evidence obtained from that electronic surveillance is admissible during the trial.

To sum up, surveillance, is legal in the U.S. law. Surveillance is being governed under the cases law and the principle of the Fourth Amendment, while electronic surveillance is being governed by the principle of the Fourth Amendment, the ECPA and Chapter 119 of the Criminal Procedure. However, despite being governed by legislation, in practice, it is quite relaxed to obtain a court order to impose electronic surveillance since the grounds to impose the electronic surveillance is entirely based upon the agency's discretion and not being subjected to the judicial review of facts.

### **Special Investigative Techniques and Their Effects on Human Rights**

The nature of special investigative techniques, which are always operated covertly, means they can easily breach or affect the human rights and fundamental freedoms of people in a democratic society.

Human rights which could be potentially breach by the imposing of special investigative techniques are right to privacy and right to a fair trial in criminal proceedings.

The right to privacy is one of the universal human rights recognised in Article 12 of UDHR. This Article states that: *“No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honour and reputation. Everyone has the right to the protection of the law against such interference or attacks”*.<sup>59</sup> The intention of right to privacy is to protect the privacy of people in many dimensions such as information privacy, communication privacy and territorial privacy which, in criminal justice, is linked to the values of due process. In contrast, the nature of special investigative techniques in criminal justice process draws from crime control values so the use of these techniques may affect or breach the right to privacy. For instance, the use of surveillance techniques, including electronic devices, to intercept or obtain communication or personal data can interfere with the private life of the individual (Giurea, 2013). Moreover, the use of intrusive surveillance tech-

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<sup>56</sup> 18 USC §2510

<sup>57</sup> 18 U.S. Code CHAPTER 119— WIRE AND ELECTRONIC COMMUNICATIONS INTERCEPTION AND INTERCEPTION OF ORAL COMMUNICATIONS

<sup>58</sup> H.R. Rep. No. 99- 647 (1986)

<sup>59</sup> Universal Declaration of Human Rights (adopted 10 December 1948 UNGA Res 217A (III) (UDHR) art 12.

niques, operated with or without the use of surveillance devices in any residential premises or in any private vehicle, may affect the territorial privacy of individuals (Campbell, 2013). In the case of undercover operations, law enforcement officials have to rely on information and evidence obtained from undercover agents who disguise themselves and ‘befriend’ a suspect over a period of time. It is clear that such operations may interfere with the suspect’s right to respect for private life because a suspect is unaware of scrutiny by undercover officials (Noorlander, 1999).

The right to a fair trial is one of the universal human rights recognised in Article 10 of UDHR. Article 10 states that: *“Everyone is entitled in full equality to a fair and public hearing by an independent and impartial tribunal, in the determination of his rights and obligations and of any criminal charge against him”*.<sup>60</sup> The use of special investigative techniques can affect this right because the prosecutor does not want to disclose all details of the operation, including the identity of undercover officers, who are their key assets, in court because, if secrets about working methods and undercover operations are disclosed, it can affect not only future operations against the crime itself but may also endanger the life or safety of undercover officials (Noorlander, 1999). The use of entrapment, or provocation, techniques in controlled delivery operations or undercover operations is another favourite technique of law enforcement officials to obtain evidence in difficult cases. For instance, this technique will always be used in narcotic drug trafficking case when it is the only way to gather evidence against a given offender. However, law enforcement officials can use these special investigative techniques only to obtain evidence from targeted suspects who fully intend to commit criminal activities anyway (“passive manner”). Law enforcement officials cannot try to encourage or induce the targeted suspects to commit criminal activities when they do not have the intention to commit such (“active manner”). If law enforcement officials use these techniques in an “active manner”, the accused may argue in court that the evidence obtained from the misuse of entrapment or provocation techniques is inadmissible and cannot be used to incriminate the accused (Council of Europe, 2013).

Thus, it can be concluded that, although the use of special investigative techniques of UN-CAC is one of the best methods to collect evidence and effectively combat complex crime, like the corruption in public sectors, people have to sacrifice some of their fundamental rights and freedoms to these special investigative techniques. Consequently, in democratic countries, which have a criminal justice system based on due process of law, the judicial authorities have a responsibility to protect people from the misuse of these investigative techniques by taking strike the right balance between “crime control” and “due process” for the legal use of these techniques (Packer, 1968) as well as providing the guidelines for the use of special investigative techniques in order that law enforcement authorities comply with human rights rules.

## **CONCLUSION**

As previously discussed, the use of controlled delivery, undercover operations and electronic or other forms of surveillance, under Article 50 of the UNCAC, has been recognised in many specific laws in Thailand. However, the legislators did not put all of these special investiga-

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<sup>60</sup> Universal Declaration of Human Rights (adopted 10 December 1948 UNGA Res 217A (III) (UDHR) art 10.

tive techniques together in every relevant law. The poor integration of these techniques can hinder operations against serious criminal offences. Their secondary status as objects in specific legislation is another concern in the use of these special investigative techniques. In Thailand, specific offences have primary status as the main subject in every specific Act relating to criminal offences. Hence, legislators introduce these special investigative measures into each specific Act where such measures might be useful legal instruments to combat public sector's corruption. A legislative technique like this is outdated and not flexible enough to public sector's corruption.

Comparing the approach of Thailand with that of a more developed jurisdiction like the Netherlands, England and Wales and the United States on legislation for these special investigative techniques, it is very clear that their approach is more practical and flexible. More importantly, with their status as the main subjects of the law, these special investigative techniques can be applied to any offences, including public sector's corruption. Moreover, this also allow various law enforcement officials who wish to impose these special investigative techniques to investigate public sector's corruption to do so easily, thus in practice, this could make combating public sector's corruption more effectively.

Therefore, this research is suggesting that lawmakers in Thailand need to consider the possibility of enacting an all-purpose statute on investigatory powers like other countries if Thailand wish to efficiency combating public's sector corruption.

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**THAILAND WEDDINGS AND HONEYMOONS DESTINATION PERCEPTION OF  
BRITISH AND AUSTRALIAN TOURISTS**

by

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**ABSTRACT**

Thailand tourism has been growing over a decade and continues to attract more tourists from around the world. The number of tourists from Britain and Australia was 946,919 in 2015 with an increasing rate of four percent per year. The objective of this study was to study British and Australian tourists' perception toward Thailand as wedding and honeymoon destination of their choices. A questionnaire survey was administered with samples of 550 British tourists and 570 Australian tourists at Suvarnabhumi Airport over a period of three months. The data were analyzed by descriptive statistic, cross-tabulation and Chi-square testing. The results suggested that 26% of British tourists and 2% of Australian tourists perceived Thailand as their wedding and honeymoon destination. The study reveals that status and occupation of British and Australian tourist have significant relationship with tourist types. The budget and income of tourists both British and Australian are related with the types of tourism choices. The overall finding indicated that honeymoon and wedding tourists enable to earn the higher tourist's expenditure in Thailand.

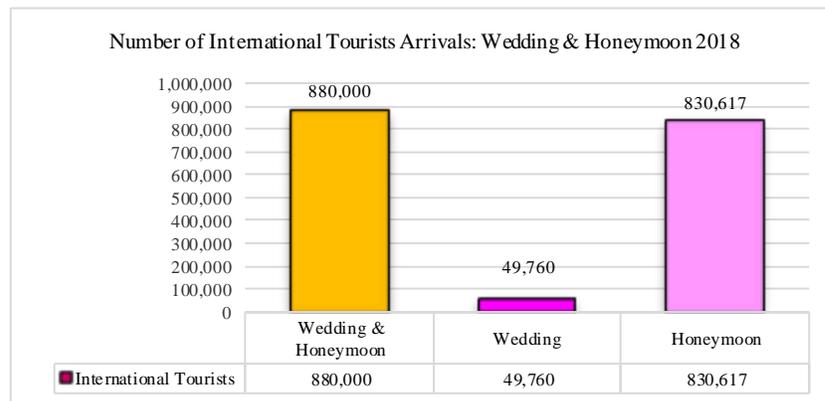
**KEY WORDS:** Wedding and honeymoon, tourism types, British, Australian, Thailand

**INTRODUCTION**

The development of niche markets such as shopping tour, wellness and spa, meeting, intensives, conferencing exhibition (MICE), medical tourism, wedding and honeymoon tourism enable Thailand enhance differentiate its tourism from neighboring countries (Sharafuddin, 2015). According to Tourism Authority of Thailand (TAT) policy and marketing plan to promoted and develop the operation proactive marketing strategy to increase the new market as well as the niche-markets to attract more high value tourists to visit Thailand (Wirudchawong, 2012).

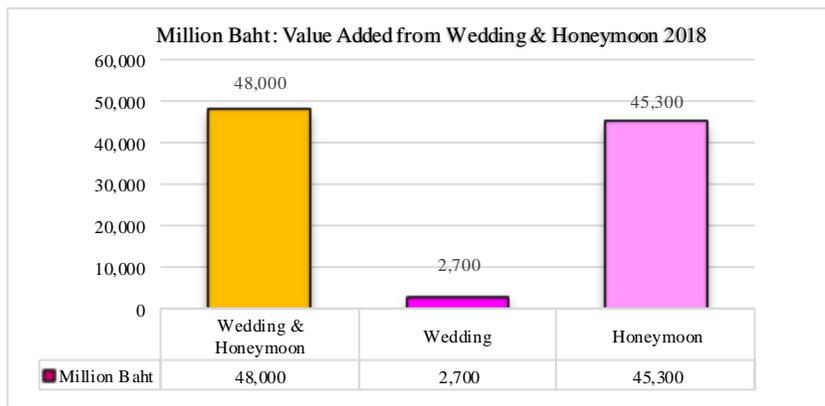
Thailand had been a popular destination among wedding and honeymoon couples from North East Asia (44%), Europe (28%), Southeast Asia (15%) and recently, Thailand tourism provider cope with the increasing numbers of wedding from India (Wongtada and Krairit, 2017). The important of wedding and honeymoon tourism segment as being one of the top generators of national tourism revenue which aim to develop Thailand as a hub of wedding and honeymoon in Asean region. In 2018, the number of international tourists' arrivals for wedding and honeymoon 880,000 (refer to Figure 1), this brough the value added for the tourism industry of 48,000 Million Baht (refer to Figure 2). The visitors from Asia ranked the highest, followed by Europe countries.

**Figure 1.** Number of Wedding and Honeymoon Tourists Arrivals



**Source:** Tourism Authority of Thailand (TAT) “Amazing Thailand Romance Trade Meet 2019.”

**Figure 2.** Value Added from Wedding and Honeymoon in Million Baht



**Source:** Tourism Authority of Thailand (TAT) “Amazing Thailand Romance Trade Meet 2019.”

Against these backdrops, the Tourism Authority of Thailand (TAT) plans to focus more on wedding and honeymoon tourism to push Thailand into the top five for global romance destination (Sritama, 2018). The possibility to make Thailand “*dreaming wedding and honeymoon destination*” could be identified by destination extraordinaire, diverse choices, dream hideaways, delectable testes and distinct hospitality (The Nation, 2018 Jun). In addition, Thailand image as a global wedding honeymoon market can be categorized into three main target segments are as (1) pre-wedding market: China has emerged as potential source market; (2) wedding market: in

segment famous for India, Hong Kong and Australian tourists and (3) honeymoon market: this is refer to long-haul markets from America and Britain tourists. Tourists from Britain and Australia have ranked 4<sup>th</sup> and 8<sup>th</sup> in number of visitors visiting Thailand, they spend longer days staying and spending more on health services than other countries (UNWTO Tourism Highlight, 2016). In 2015, the number of tourists from Britain and Australia was 946,919 with an increasing rate of four percent per year. The objective of this study, therefore, was to study British and Australian tourists' perception toward Thailand as a wedding and honeymoon destination of their choices.

**RQ1:** Does Thailand is the dreaming wedding and honeymoon destination via British and Australian tourists' perception?

**RQ2:** What types of tourism earning the higher expenditure in Thailand?

### **Objective of the Study**

1. To examine popular choices of Thailand leisure destination via British and Australian tourists' perception.
2. To examine the higher tourism types expenditure in Thailand.

### **Scope of the Study**

This study is preliminary study with limitation on samples selected from tourists visiting Suvarnabhumi airport. Additional airports and attraction places may be used to increase number of samples and rate of return. Time is also limited within three months during off season vacation. Extension on time of study that covers high season vacation may increase randomness of targeted samples.

## **LITERATURE REVIEW**

### **British and Australian Tourists**

Although tourists from Britain and Australia have ranked 4<sup>th</sup> and 8<sup>th</sup> in number of visitors visiting Thailand, they spend longer days staying and spending more on health-related services with high repetition visits than other countries (UNWTO Tourism Highlight, 2016). The number of tourists from Britain and Australia was 946,919 in 2015 with an increasing rate of four percent per year. In 2015, the British tourists spent an average of 17 days with expenditure of 4,300 Baht per day. The Australian tourists spent an average of 13 days with expenditure of 6,000 Baht per day. The contributions to Thailand tourism from British tourists were 76,619 Million Baht and 65,117 Million Baht from Australian tourists. It is the purpose of this study to reveal British and Australian tourists' perception toward Thailand as a wedding and honeymoon destination of their choices.

**Table 1.**

*International Tourism Expenditure in 2015 and 2016.*

Rank	Country	UNWTO Region	International Tourism Receipts 2016 (\$billion)	International Tourism Receipts 2015 (\$billion)
1	China	Asia	261	250
2	United States	North America	122	112.9
3	Germany	Europe	81	77.5
4	United Kingdom	Europe	64	63.3
5	France	Europe	41	38.4
	Russia	Europe	-	34.9
6	Canada	North America	29	29.4
7	South Korea	Asia	27	25.0
8	Australia	Oceania	27	23.5
9	Italy	Europe	25	24.9
10	Hong Kong	Asia	24	--

*Source:* UNWTO Tourism Highlights, (2017).

Thailand is recognized as the world's leading international tourists' destination and ranked in the top 9<sup>th</sup> (33 million) International tourism arrivals and the top 3<sup>rd</sup> international tourists receipts worthy US\$44.9 billion in 2015 and hitting US\$49.9 billion mark in 2016 (UNWTO Tourism Highlights, 2017). China is the largest international tourism expenditure country in 2016 worth US\$261 billion, second largest is United States worth US\$122 billion, United Kingdom and Australia were ranked in the 4<sup>th</sup> (US\$64 billion) and 8<sup>th</sup> (US\$27 billion) international biggest spender in global tourism market (refer to Table 1). Targeting these biggest spenders and attractive them to visiting Thailand destination is strategy needs to enhance of national income.

**Table 2.***International Tourist Receipts Arrivals Jan-Dec 2017.*

Country of Residence	No. of Arrivals	Length of Stay (Days)	Per Capital Spending		Average Expenditure of International Tourist							Tourism Receipts
			Baht/Day	+/- (%)	Shopping	Entertainment	Sightseeing	Accommodation	Food & Beverage	Local Transport	Miscellaneous	Mil. Baht
<b>ASEAN</b>	<b>9,644,324</b>	<b>5.64</b>	<b>5,498</b>	<b>+4.02</b>	<b>1,826</b>	<b>560</b>	<b>133</b>	<b>1,415</b>	<b>1,044</b>	<b>445</b>	<b>73</b>	<b>299,045</b>
Brunei	18,249	7.42	6,682	+4.72	2,246	538	166	1,902	1,163	569	96	905
Cambodia	851,879	6.67	5,475	+11.5	1,718	882	112	1,147	1,082	483	51	31,205
Indonesia	597,060	6.03	5,161	-1.60	1,637	282	187	1,602	901	487	65	18,489
Laos	1,692,866	5.69	5,205	+11.7	1,944	530	72	1,230	966	424	40	50,135
Malaysia	3,493,112	4.96	5,507	+2.47	1,815	529	166	1,475	1,015	416	90	95,410
Myanmar	387,722	7.43	5,714	+7.03	2,069	894	93	1,280	891	430	57	16,462
Philippines	361,218	7.33	5,024	+0.21	1,511	347	158	1,473	944	507	84	13,301
Singapore	1,259,523	5.40	6,393	+1.59	1,861	654	116	1,814	1,372	477	99	43,482
Vietnam	985,695	5.78	5,205	+0.26	1,858	384	150	1,249	1,042	445	78	29,655
<b>China</b>	<b>9,846,818</b>	<b>8.80</b>	<b>6,545</b>	<b>+3.79</b>	<b>1,995</b>	<b>596</b>	<b>347</b>	<b>1,645</b>	<b>1,250</b>	<b>594</b>	<b>118</b>	<b>520,722</b>
<b>Russia</b>	<b>1,340,376</b>	<b>17.35</b>	<b>4,414</b>	<b>-0.71</b>	<b>897</b>	<b>429</b>	<b>154</b>	<b>1,372</b>	<b>1,059</b>	<b>436</b>	<b>67</b>	<b>102,658</b>
<b>Australia</b>	<b>837,485</b>	<b>16.51</b>	<b>5,671</b>	<b>+0.04</b>	<b>976</b>	<b>755</b>	<b>245</b>	<b>1,808</b>	<b>1,223</b>	<b>563</b>	<b>-</b>	<b>65,776</b>
<b>UK</b>	<b>945,061</b>	<b>18.25</b>	<b>4,290</b>	<b>+1.78</b>	<b>517</b>	<b>552</b>	<b>194</b>	<b>1,428</b>	<b>1,017</b>	<b>508</b>	<b>74</b>	<b>73,992</b>
<b>Japan</b>	<b>1,525,707</b>	<b>7.81</b>	<b>5,596</b>	<b>+4.55</b>	<b>903</b>	<b>844</b>	<b>156</b>	<b>1,850</b>	<b>1,261</b>	<b>506</b>	<b>76</b>	<b>66,680</b>
<b>Korea</b>	<b>1,698,608</b>	<b>7.60</b>	<b>5,849</b>	<b>+3.43</b>	<b>1,207</b>	<b>816</b>	<b>174</b>	<b>1,882</b>	<b>1,193</b>	<b>468</b>	<b>109</b>	<b>75,507</b>
<b>USA</b>	<b>1,006,939</b>	<b>14.18</b>	<b>5,204</b>	<b>+1.80</b>	<b>777</b>	<b>624</b>	<b>232</b>	<b>1,715</b>	<b>1,097</b>	<b>660</b>	<b>98</b>	<b>74,307</b>
<b>India</b>	<b>1,281,681</b>	<b>7.45</b>	<b>5,733</b>	<b>+1.61</b>	<b>1,462</b>	<b>667</b>	<b>216</b>	<b>1,641</b>	<b>1,093</b>	<b>544</b>	<b>109</b>	<b>54,739</b>
<b>France</b>	<b>693,426</b>	<b>17.57</b>	<b>3,714</b>	<b>-3.96</b>	<b>518</b>	<b>380</b>	<b>149</b>	<b>1,280</b>	<b>810</b>	<b>519</b>	<b>58</b>	<b>45,510</b>

*Source:* Ministry of Tourism and Sports, (2017).

Table 2 show that British tourists are not much spending for shopping and on entertainment program while the length of stay in country is higher. This implies that they enjoy to stay in Thailand as the *'relaxed destination'*, due to low-cost of living, friendly tourist culture, and relaxing environment (UNWTO Tourism Highlights, 2017). Since, International tourism view Thailand as *"The Land of Amazing"*, trapped in mind of international tourists over 20 years ago, which they concerned Thailand is a *"cheap destination rather a leisure quality destination"* (Teh, 2007). Thailand tourism has become mass tourism whereby tourists spending most of their time visiting and taking photographs of interesting places. As of this point, to enhance a leisure quality destination *"Thailand needs shift of interests from tangible cultural resources to intangible resources"* (Sritama, 2016). To create high value tourism, Thailand tourism stakeholders should be focus on types specific tourism activities with high international tourists spend to generate national employment and income.

### **Types of Tourism in Thailand**

Thailand tourism has become ever more important as a driver of Thailand's GDP growth, accounting for 12.3% of GDP in 2018 compared to only 5.3% in 2009. According to the World Travel & Tourism Council (WTCC) report, tourism industry is an important source of employment, with total contribution of travel and tourism to employment was 15.5% of total employment in 2017 (5,834,000 jobs) – this figure is forecast to rise to 22.3% of total employment in 2028 (Adulwattana and Pitakard, 2019). Consequently, this underlines the increasing importance of the tourism sector to the Thai economy. Against this backdrop, this commentary discusses the different types of tourism emerging in Thailand.

According to the World Tourism Organization defined tourism as *"the activities of persons travelling to and staying in place outside their usual environment for not more than one consecutive year for leisure, business and other purposes"* (UNWTO, 1995). The people involved in such activities inside the country are known as *'domestic tourists'* and outside the country is known as *'international tourists.'*

'The National Tourism Development Plan 2012-2016' is sought to create confidence in Thailand's good image among visitors, so that the country will welcome great number of visitors (Wirudchawong, 2012). The national tourism strategic plan to sustainable tourism development in a different supply side such as infrastructure, accommodation and transportation. In another hand, tourists as customers who buy tourism products and service, they more focus on the quality of tourism product provided by tourism suppliers (Hardy and Beeton, 2001 cited in Dabphet, Scoot and Ruhanen, 2012). Against this backdrop, Tourism Authority of Thailand (TAT) state under the Ministry of Tourism and Sports aim to promote Thailand tourism marketing in different types. This article based on the past study information and composed with official website of Tourism Authority of Thailand generated the newly types of Thailand tourism in such following;

#### **1. Shopping and Entertainment**

One of the key activities for tourists is *"where to shop"*, the choice decision is becoming more complicated given the increasing number and variety of shopping alternatives. In Thailand shopping center classified in to two types (1) indoor; in Bangkok

there are variety of luxury mall such as Siam Discovery, Central Embassy Shopping Mall, EmQuartier, Icon Siam Shopping Mall, Siam Paragon etc. and (2) outdoor; Chatuchak Weekend Market, Nigh Market (Khao San - Patpong - Rod Fai Market), Asiatique: The Riverfront, Pratulum and China town. The contribution of “*entertainment*” to shopping center image was introduced by Sit, Mairiless and Brich, (2003) namely entertainment (theatre, presence of related services, special events, attractive leisure offer), food (food courts, café and restaurants) and security (far from several features of shopping centers make them suitable targets for criminal activities).

2. Wellness Tourism

Wellness tourism is the phenomena resulting from a journey and residence by people whose main motive is to preserve or promote their health (Mueller and Kaufmann, 2001). The wellness tourism includes a range of wellness facilities, services and indigenous (Bushekk and Sheldon, 2009). Thailand wellness tourism is very strong popular in among western tourists represented by Thai culture and unique massage and spa. Thai wellness techniques are wide in services variety, provided the appropriate professional know-how on individual care. The customer can require a comprehensive service package comprising physical fitness/beauty care, healthy nutrition, relaxation, meditation and mental activities. The most popular Thailand wellness and spa are Hua Hin, Koh Phangan, Phuket and Pattaya.

3. Wedding and Honeymoon

According to UNWTO (United Nations World Tourism Organization) definition of wedding tourism is “*the total activities for a young couple and their possible visitors to a place where no one intent to marry is a residents of a given region or resident, and the primary purpose of the trip is to marry*” (UNWTO, 2015). Similarly, Durince, (2013) defined “*wedding tourism*” as international travel to get married or to celebrate the wedding. Recently, Chiappa and Fortezza, (2015) defined wedding tourism is “*tourist flows that arise from the participation to a destination wedding that is held in place that is different from where both the bride and groom’s, or just one of them, love*”. In this article defined wedding destination and honeymoons are the main components called “*wedding and honeymoon tourism*.”.

4. Medical Tourism

Base on the information reported by Ministry of Public Health, Thailand 2012 found 2.5 million international patients have flown from various parts of the world to Thailand for medical treatment (Sharafuddin, 2015). Thailand hospital and medical service providers are accreditation and reputation. Physicians are credibility, professional competence, clear explanation with team work support (Ngamvichaikit and Beise-Zee, 2014). Thailand medical cooperated with Joint Commission International (JCI), United Stage accredited hospitals offering excellent medical service and treatment charges affordable contribute Thailand become one of the best medical experience in Asean.

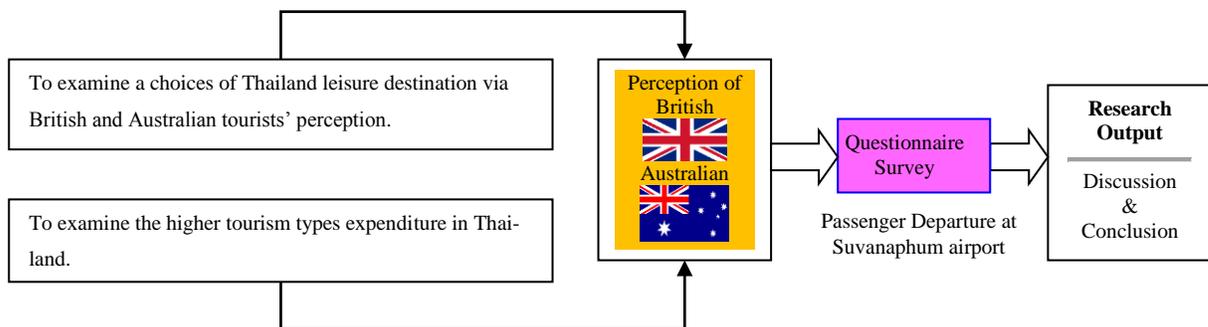
5. MICE

Meeting, Incentives, conventions and exhibitions (MICE) is a type of tourism which refer to a large groups traveler, usually planned well in advance, are brought together. The

components of MICE are well understood by tourists such as incentive tourism is usually conducted purely for entertainment, rather than professional or education purposes. Meeting, Convention and Conference are usually centered on a theme or topic and are aimed at a professional, school, academic or trade organization or other special interest group. Examples: Medical Facilities, Theme Parks. The Thailand Convention and Exhibition Bureau was established by Royal Decree in 2020 to position Thailand as Asian’s premium business tourism hub, since then Thailand Convention and Exhibition Bureau has worked well to establish itself as a leader in this sector.

## Theoretical Framework

**Figure 1.** Theoretical Framework for Thailand Destination Choices



## METHODOLOGY

Thailand choice of destination check lists were developed from secondary sources of information; past research study composed from the official website of Tourism Authority of Thailand. An outcome is developed the newly emerging types of Thailand tourism market into five categories (refer to Table 4. Perceived Thailand as Selected Destination). A questionnaire survey was adopted and administered in this study. Six hundred questionnaires were distributed to British tourists and six hundred questionnaires were distributed to Australian tourists at Suvarnabhumi Airport over a period of three months. The returned questionnaires were 550 questionnaires from British tourists and 570 questionnaires from Australian tourists. The data were collected and analyzed using descriptive analysis, cross tabulation analysis and Chi-Square test with the results presenting in the next section.

**Table 3.**

*Research Objective and Collecting Data Methods.*

No.	Research Questionnaire	Thailand Research Objective	Collecting Data	Questionnaire Development	Collecting Data Place	Data Analysis	Collecting data period
1.	Does Thailand is the dreaming wedding and honeymoon destination via British and Australian tourists' perception?	To examine a choices of Thailand leisure destination via British and Australian tourists' perception.	Survey	Sharafuddin, (2015); Wongtada and Krairit, (2017) composed with official website of TAT	Suvarnabhumi International Airport Samut Prakan	Descriptive analysis Cross tabulation analysis and Chi-Square test	Oct.-Dec. 2017
2.	What types of tourism earning the higher expenditure in Thailand?	To examine the higher tourism types expenditure in Thailand.	Survey	Sharafuddin, (2015); Wongtada and Krairit, (2017) composed with official website of TAT	Suvarnabhumi International Airport Samut Prakan	Cross tabulation analysis and Chi-Square test	Oct.-Dec. 2017

## **RESULTS**

The research finding is represented into as of the following research questions “*Does Thailand is the dreaming wedding and honeymoon destination via British and Australian tourists’ perception?*” and “*what types of tourism earning the higher expenditure in Thailand?*” The overall research sample are summarizing in Table 4 below.

**Table 4.**

*Gender, Age Status, and Education of British Tourist Respondents.*

No.	Statement	British (N=550)		Australian (N=570)	
		Frequency (N)	Percent (%)	Frequency (N)	Percent (%)
1.	Gender				
	Male	347	63.1	330	57.9
	Female	203	36.9	240	42.1
2.	Age				
	<20	62	11.3	78	13.7
	21-30	199	36.2	209	36.7
	31-40	140	25.5	115	20.2
	41-50	77	14.0	88	15.4
	51-60	52	9.5	20	3.5
	>60	20	3.6	60	10.5
3.	Status				
	Married	254	46.2	160	28.1
	Single	296	53.8	410	71.9
4.	Education				
	School	81	14.7	40	7.0
	Undergraduate	316	57.5	129	22.6
	Postgraduate	153	27.8	371	65.1
	Other	-	-	30	5.3
5.	Income				
	<5,000 USD	175	31.8	180	31.6
	5,000-10,000 USD	170	30.9	40	7.0
	10,000-15,000 USD	131	23.8	230	40.4
	>15,000 USD	74	13.5	120	21.1
6.	Occupation				
	Employee	333	60.5	180	31.6
	Business Owner	120	21.8	150	26.3
	Student	67	12.2	180	31.6
	Other	30	5.5	60	10.5
7.	Visiting time				
	First time	202	36.7	148	26
	1-2 time	269	48.9	250	43.9
	3-5 time	61	11.1	123	21.6
	6-10 time	18	3.3	49	8.6
8.	Duration				
	2-6 days	-	-	20	3.5
	5-7 days	133	24.2	260	45.6
	8-10 days	277	50.4	200	35.1
	More than 2 weeks	140	25.5	90	15.8

**Table 4.** (continued)

No.	Statement	British (N=550)		Australian (N=570)	
		Frequency (N)	Percent (%)	Frequency (N)	Percent (%)
9.	Budgets				
	<1,000 USD	12	2.2	20	3.5
	1,000-1,500 USD	216	39.3	170	29.8
	1,500-2,000 USD	97	17.6	200	35.1
	2,000-2,500 USD	162	29.5	120	21.1
	>2,500 USD	63	11.5	60	10.5

Based on Table 4 the majority of British and Australian tourists are in the same age range between 21-30 years old. The status of British majority 46.2% are married and 72% status are single in Australian group. The average income for British tourists 31% below than 5,000 \$USD and 40.4% in Australian group is between 10,000-15,000 USD. Most of British (49%) and Australian (44%) tourists are visiting Thailand 1-2 time before. British stay longer than Australian averagely 8-10 days (50.4%) and budget spending per trip about 1,000-1,500 USD (excluded air ticket and hotel).

**Does Thailand is the Dreaming Wedding and Honeymoon Destination via British and Australian Tourists’ Perception?**

The results shown in Table 4 suggest that British and Australian tourists have selected Thailand as their five selected destinations: (1) shopping and entertainment destination, (2) wellness destination, (3) honeymoon and wedding destination, (4) medical destination and (5) meeting and conference destination. The shopping and entertainment destination has been ranked 1<sup>st</sup> as selected destination by 28.9 % of British tourists and 32.1 % of Australian tourists. The wellness destination has been ranked 2<sup>nd</sup> as selected destination by 28 % of British tourists and 31.1 % of Australian tourists. ***The honeymoon and wedding destination has been ranked 3<sup>rd</sup> as selected destination by 26 % of British tourists, but ranked 5<sup>th</sup> as selected destination by 1.8 % of Australian tourists.*** The medical destination has been ranked 4<sup>th</sup> as selected destination by 9.1 % of British tourists and 14.9 % of Australian tourists. Finally, the meeting and conference destination has been ranked 5<sup>th</sup> as selected destination by 8 % of British tourists, but ranked 3<sup>rd</sup> as selected destination by 20.1 % of Australian tourists.

Rank No.	Description of Destination	British Tourists		Australian Tourists	
		Frequency	%	Frequency	%
1	Shopping and Entertainment Destination	159	28.9	183	32.1
2	Wellness Destination	154	28.0	177	31.1
<b>3</b>	<b>Honeymoon and Wedding Destination</b>	<b>143</b>	<b>26.0</b>	<b>10</b>	<b>1.8</b>
4	Medical Destination	50	9.1	85	14.9
5	MICE	44	8.0	115	20.1
	Total	550	100	570	100

Cross-tabulation analysis revealed that the relationship between British tourists' status and tourism types was significant. Particularly, in honeymoon & wedding tourism all the tourists were in married status or 56% of married tourists are engaged in this type following by spa and wellness 28%. The most popular activities types in single tourists' status is shopping and entertain 48%, following by spa and wellness 28%. The implication here is tourist's status (single and married) are related to types of tourist's activities (refer to Table 5).

**Table 5.**

*Cross-Tabulation for British status and Tourism Types.*

Tourists Status	Tourism Types					Total
	Medical Tourism	Spa & Wellness	MICE	Shopping & Entertainment	Honeymoon & Wedding	
Married	19	70	4	18	143	254
Single	31	84	40	141	0	296
Total	50	154	44	159	143	550

H1: There is a significant relationship between British status and tourism types

Testing Chi-Square analysis in Table 6, the P-value significance at .000 shows the association between status and tourism types (refer to Table 6). So as the hypothesis H1 is also proved.

**Table 6.**

*Chi-Square Testing (status and tourism types).*

	Value	df	P-value
Pearson Chi-Square	270.126 <sup>a</sup>	4	.000
Likelihood Ratio	341.514	4	.000
Linear-by-Linear Association	45.809	1	.000
No. of Valid Cases	550		

Cross-group analysis shows that the relationship between the occupation of tourists and tourism was significant. Most of the tourists are company employees, 60.5%, followed by business owners, 22% in tourism, weddings and honeymooners. The tourists are business owners and employees (refer to Table 7).

**Table 7.**

*Cross-tabulation for British (occupation and tourism types).*

Tourists Occupation	Tourism Types					Total
	Medical Tourism	Spa & Wellness	MICE	Shopping & Entertainment	Honeymoon & Wedding	
Employee	32	82	34	102	83	333
Business Owner	15	32	2	18	53	120
Student	2	18	8	39	0	67
Other	1	22	0	0	7	30
Total	50	154	44	159	143	550

H2: There is a significant relationship between British occupation and tourism types

Testing Chi-Square analysis in Table 8, the P-value significance at .000 shows the association between British tourists' occupation and tourism types (refer to Table 8). So as the hypothesis H2 is also proved.

**Table 8.**

*Chi-Square Testing (occupation and tourism types).*

	Value	df	P-value
Pearson Chi-Square	110.529 <sup>a</sup>	12	.000
Likelihood Ratio	130.464	12	.000
Linear-by-Linear Association	3.478	1	.062
No. of Valid Cases	550		

Cross-tabulation analysis revealed that the relationship between Australian tourists' status and tourism types was significant. The findings revealed that a very few (1.75%) of Australian tourists engaged in honeymoon and wedding type while their status was single (refer to Table 9).

**Table 9.**

*Cross-Tabulation Australian (status and tourism types).*

	Tourism Types					Total
	Medical Tourism	Spa and Wellness	MICE	Shopping & Entertainment	Honeymoon & Wedding	
Married	31	80	18	31	0	160
Single	54	97	97	152	10	410
Total	85	177	115	183	10	570

H3: There is a significant relationship between Australian status and tourism types

Testing Chi-Square analysis in Table 10, the P-value significance at .000 shows the association between Australian tourist's status and tourism types (refer to Table 10). So as the hypothesis H3 is also proved.

**Table 10.**

*Chi-Square Testing (status and tourism types).*

	Value	df	P-value
Pearson Chi-Square	52.601 <sup>a</sup>	4	.000
Likelihood Ratio	55.157	4	.000
Linear-by-Linear Association	35.002	1	.000
N of Valid Cases	570		

Cross-tabulation analysis revealed that the relationship between Australian tourists' occupation and tourism types was significant. Most Australian tourists are students and their favorite activities, such as shopping and entertainment, followed by MICE. A few percent of Australian business owners were jointed in honeymoon and wedding tours (see Table 11).

**Table 11.**

*Cross-Tabulation Australian (occupation and tourism types).*

Australian Occupation	Tourism Types					Total
	Medical Tourism	Spa & Wellness	MICE	Shopping & Entertainment	Honeymoon & Wedding	
Employee	31	70	30	49	0	180
Business Owner	52	36	7	45	10	150
Student	2	12	77	89	0	180
Other	0	59	1	0	0	60
Total	85	177	115	183	10	570

H4: There is a significant relationship between Australian occupation and tourism types

Testing Chi-Square analysis in Table 12, the P-value significance at .000 shows the association between Australian tourist's occupation and tourism types (refer to Table 13). So as the hypothesis H4 is also proved.

**Table 12.**

*Chi-Square Testing (occupation and tourism types).*

	Value	df	P-value
Pearson Chi-Square	340.143 <sup>a</sup>	12	.000
Likelihood Ratio	358.405	12	.000
Linear-by-Linear Association	6.567	1	.010
No. of Valid Cases	570		

**What Types of Tourism Earning the Higher Expenditure in Thailand?**

Cross-tabulation analysis revealed that in generally, British tourist's income was ranked between 5,001-10,000 \$USD whereby these tourists were enjoy in shopping and entertainment, spa and wellness as well. The high-income tourists 15,000 \$USD were joint in honeymoon and wedding (48%), following by medical tourism (24), spa and wellness (22%), see more detail in Table 13. Thus, the relationship between British tourist's income and tourism types are related.

**Table 13.**

*Cross-Tabulation (British tourist's income and tourism types).*

British Income	Medical Tourism	%	Spa and Wellness	%	MICE	%	Shopping & Entertainment	%	Honeymoon & Wedding	%	Total	%
<5,000 USD	12	24	39	25.3	31	70.5	76	48	17	12	175	32
5,001-10,000 USD	14	28	50	32.4	12	27.5	52	33	42	29	170	31
10,001-15,000 USD	6	12	49	32	1	2	27	17	48	34	131	24
>15,000 USD	18	36	16	10.3	0	0	4	2	36	25	74	13
Total	50	100	154	100	44	100	159	100	143	100	550	100
Total %	9		28		8	29		26			100	

H5: There is a significant relationship between British tourist's income and tourism types

Testing Chi-Square analysis in Table 14, the P-value significance at .000 shows the association between British tourist's income and tourism types (refer to Table 15). So as the hypothesis H5 is proved.

**Table 14.**

*Chi-Square testing (British tourist's income and tourism types).*

	Value	df	P-value
Pearson Chi-Square	134.075 <sup>a</sup>	12	.000
Likelihood Ratio	142.803	12	.000
Linear-by-Linear Association	.669	1	.413
No. of Valid Cases	550		

Cross-tabulation analysis revealed that the relationship between British tourists' budget and tourism types was significant. The findings explore that the highest spender of tourists was 2,500 \$USD (per/trip/person), they were joint in wedding and honeymoon (44%) following by spa and wellness which both activities can be combined in the single packaging (refer to Table 15).

**Table 15.**

*Cross-Tabulation (British tourist's budget and tourism types).*

Budget	Tourism Types					Total
	Medical Tourism	Spa & Wellness	MICE	Shopping & Entertainment	Honeymoon & Wedding	
<1,000 USD	1	3	0	8	0	12
1,000-1,500 USD	27	70	11	84	24	216
1,500-2,000 USD	1	29	0	37	30	97
2,000-2,500 USD	14	39	24	24	61	162
>2,500 USD	7	13	9	6	28	63
Total	50	154	44	159	143	550

H6: There is a significant relationship between British tourist budget and tourism types

Testing Chi-Square analysis in Table 16, the P-value significance at .000 shows the association between British tourist budget and tourism types. So as the hypothesis H6 is also proved.

**Table 16.**

*Chi-Square Testing (British tourists' budget and tourism types).*

	Value	df	P-Value
Pearson Chi-Square	112.002 <sup>a</sup>	16	.000
Likelihood Ratio	131.109	16	.000
Linear-by-Linear Association	11.199	1	.001
N of Valid Cases	550		

Cross-tabulation analysis revealed that the relationship between Australian tourist's income and tourism types was significant. The average income of Australian tourists was ranked between 10,001-15,000 \$USD (40%), they are interesting with shopping and entertainment, spa and wellness, MICE (refer to Table 17).

**Table 17.**

*Cross-Tabulation (Australian tourists' income and tourism types).*

Australian Income	Medical Tourism	%	Spa and Wellness	%	MICE	%	Shopping & Entertainment	%	Honeymoon & Wedding	%	Total	%
<5,000 USD	2	2.5	12	7	75	65	91	50	0	0	180	32
5,001-10,000 USD	2	2.5	13	7	13	11.5	12	6	0	0	40	7
10,001-15,000 USD	24	28	124	70	12	10.5	60	33	10	100	230	40
>15,000 USD	57	67	28	16	15	13	20	11	0	0	120	21
Total	85	100	177	100	115	100	183	100	10	100	570	100
Total %	15		31		20		32		2		100	

H7: There is a significant relationship between Australian tourism income and tourism types

Testing Chi-Square analysis in Table 18, the P-value significance at .000 shows the association between Australian tourist income and tourism types (refer to Table 18). So as the hypothesis H7 is also proved.

**Table 18.**

*Chi-Square Testing (Australian tourist income and tourism types).*

	Value	df	P-value
Pearson Chi-Square	308.340 <sup>a</sup>	12	.000
Likelihood Ratio	307.637	12	.000
Linear-by-Linear Association	124.239	1	.000
No. of Valid Cases	570		

Cross-tabulation analysis revealed that the relationship between Australian tourist's budget and tourism types was significant. The higher tourist's spender over 2,500 \$USD were spending in MICE, medical tourism, wedding and honeymoon. Medical tourism become a popular in among of Australian higher purchasing power (refer to Table 19).

**Table 19.**

*Australian Tourists (budget and tourism types).*

Budget	Tourism Types					Total
	Medical Tourism	Spa & Wellness	MICE	Shopping & Entertainment	Honeymoon & Wedding	
<1,000 USD	0	3	2	15	0	20
1,000-1,500 USD	3	60	29	78	0	170
1,500-2,000 USD	27	82	23	68	0	200
2,000-2,500 USD	34	32	37	17	0	120
>2,500 USD	21	0	24	5	10	60
Total	85	177	115	183	10	570

H8: There is a significant relationship between Australian tourist's budget and tourism types

Testing Chi-Square analysis in Table 20, the P-value significance at .000 shows the association between Australian tourist's budget and tourism types (refer to Table 20). So as the hypothesis H6 is also proved.

**Table 20.**

*Chi-Square Testing (Australian tourist budget and tourism types).*

	Value	df	P-Value
Pearson Chi-Square	239.153 <sup>a</sup>	16	.000
Likelihood Ratio	226.643	16	.000
Linear-by-Linear Association	28.108	1	.000
No. of Valid Cases	570		

## CONCLUSION

Thailand wedding and honeymoon tourism destination has been growing and continues to attract more tourists from around the world. Thailand become dreaming wedding and honeymoon destination via international tourists' perspective. The image of Thailand wedding and honeymoon tourism can be categorized are such as (1) pre-wedding market: China has emerged as potential source market; (2) wedding market: in segment famous for India, Hong Kong and Australian tourists and (3) honeymoon market: this is refer to long-haul markets from America and Britain tourists (The Nation, 2018 Jun). The results of the study reveal that 26% of British tourists come to Thailand for wedding and honeymoon while a few of Australian tourist (2%) participate in this tourism types. The tourisms demography shows majority of British status are married (46.2%) and Australian status are single (71.9%). As of these different in status are related to the choice of tourism types selected. The tourist's occupation is related to the choice of tourism, 31.6% (180 out of 570) of Australian tourists are students, as of these among nearly half (43%) of these are participated in MICE. The study reveals that tourist's income and budget both British and Australian groups are related with tourism expenditure in different tourism types. Particularly, wedding and honeymoon tourists is the highest expenditure and longest time spending as compare with all tourism types. To promote high value tourism based on national tourism development plan, Thailand tourism stakeholders should promote Thailand tourism marketing in specific types.

## LIMITATIONS

This study is preliminary study with limitation on samples selected from tourists visiting Suvarnabhumi airport. Additional airports and attraction places may be used to increase number of samples and rate of return. Time is also limited within three months during off season vacation. Extension on time of study that covers high season vacation may increase randomness of targeted samples.

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**INDUSTRIALISATION AND TRANSITION IN THE THAI SUGAR INDUSTRY**

by

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**ABSTRACT**

The processes of industrialisation have had a huge impact on the organisation, productivity and profitability of many local industries. This study is designed to understand the way in which industrialisation has impacted the Thai sugarcane industry, and how the state has responded to protect the domestic industry and secure its socio-economic benefits for the local communities. It draws upon the accounts of a wide range of industry stakeholders, including growers, workers, millers, government officials and local community representatives, regarding practices and experiences concerning sugarcane industry and changes that have happened in the industry, to develop an in-depth understanding of the industry's developments and challenges. A qualitative case study method was adopted, involving semi-structured interviews, documentary content analysis, and observational notes. The study involved one regional case study developed around the supply chains of one sugar milling company. It was chosen to highlight the wide range of challenges encountered and the regional impacts. The findings show some key aspects that are affected by industrialization process; workforce issue, low capital investment, and diminishing availability of farming land, all of which undermine the industry's overall performance and its future.

**KEY WORDS:** Industrialization, structural change, case study, sugarcane industry, Thailand

## **INTRODUCTION**

Industrialisation becomes one of the most debated topics in the modern world (Barros Jr, Ferreira, Marcondes, & Prioste, 2019; Szirmai, 2012; Young & Deng, 1998). While it is the key impetus to the positive improvements of the national economy, it has, at the same time, brought unprecedented challenges. Regardless of this ambiguity, it is clear that industrialisation, among other things, is pivotal to the economic transformation of many countries, especially developing countries (Haraguchi, Martorano, & Sanfilippo, 2018). In effect, moving towards industrialisation has become one of the key priorities of many national states of which Thailand is no exception.

Over the last five decades, the economy of Thailand has undergone swift growth with dramatic industrial transformation. Its GDP, on average, has grown about 9.50% (UNCTAD, 2019) and become the second largest economy with the fourth highest income per capita in the Association of Southeast Asian Nations (ADB, 2015). Meanwhile, the percentage of GDP contributed by agriculture and industry changed respectively from 26% and 25% in 1970 to 9% and 35% in 2017 (UNCTAD, 2019). Given that Thailand is an agrarian country, this economic transformation has had adverse implications on its socio-economic development, especially rural areas.

Therefore, the main focus of this study is to understand the way in which industrialisation has impacted on the local industry, and how the state has responded to protect the domestic industry and secure its socio-economic benefits for the local communities who are dependent on agriculture-based industries. The Thai sugarcane industry is selected as the subject of the case study. This is not only because of its GDP contribution but also, and perhaps more importantly, its social-cultural significance for rural communities of Thailand. Thailand is the second largest exporter of sugar in the world, behind Brazil. The industry generated more than 7.82 billion USD in national revenue in 2017, accounting for 1.70 % of national GDP, or values around 250 billion Thai baht, and represents about 21% of the agricultural GDP (Bank of Thailand, 2017). Approximately 427,000 families grow sugarcane, and around 927,000 Thai people, depend on the income from this industry (Bank of Thailand, 2017). It is thus not surprising that the industry is seen as an important part of Thai social identity and bond that connects family members and communities together.

The content of this paper is given. Section two highlights the industrialisation process in Thailand. Special attention is given to the impacts of industrialisation on national economy. Section three introduces the methodology for the investigation. Section four presents the key findings. Conclusion and discussion are provided in section five.

### **Thailand Industrial Transformation**

The industrial development is not only closely linked to economic development, but also contributes to the structural change of the national economy (Haraguchi et al., 2018; Zhao & Tang, 2018). In this sense, whereas the generation of jobs and income occurs directly in the industrial sector, they are indirectly promoted in other sectors such as agriculture or service via their industry linkages (Haraguchi et al., 2018).

Industrialisation has been the major contributors to the economic development and transformation of Thailand. From an agrarian background, the country has continually progressed towards industrialisation. Thailand has strongly pursued industrialisation since 1960 in which

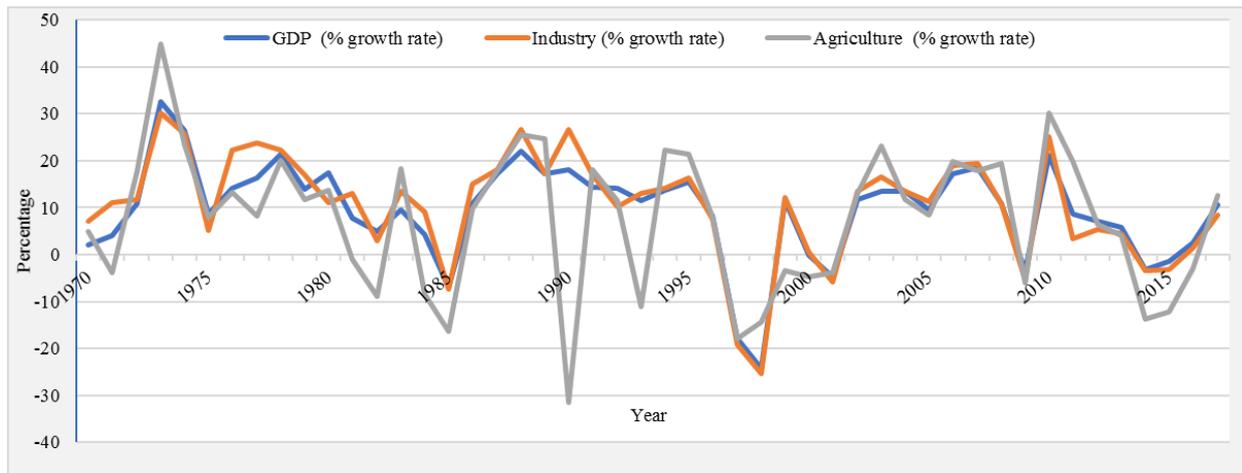
its development can be divided into two phases; 1960-1985 and from 1986 to present (Pansuwan, 2013). During the first phase, the Import Substitution Strategy (ISI) was the principal driver of its economic growth. The objective of this strategy was to import several intermediate commodities for the manufacturing of products to support domestic market. In effect, it led to the expansion of numerous manufacturers such as rubber, textile, and clothing (Pansuwan, 2013). The effect of this strategy was particularly noticeable from 1970 to 1974 when the industrial sector grew on average of 17.5% (figure 1). It contributed partly to a rapid increase of GDP from about 2% in 1970 to over 32% in 1973. While agriculture sector continued to increase during this period, its share of the GDP has declined, especially since 1976 as demonstrated in figure 2. In contrast, the share of the industrial sector increased from 25% in 1970 to around 33% in 1985.

After 1985, the Thai government has shifted towards the Export Promotion Strategy (EPS) in which industry developed from the production of simple goods with a basic resource to increasing technological items such as electronic and electric appliance, automobile part, and petrochemical and plastics etc. During this period, more incentives were given to the export industries while the foreign direct investment (FDI) was actively pursued (Reinhardt, 2000). The increasing inflow of FDI, in particular, was one of the key elements that enhance its export values and national economy. However, as the industrial sector grew, workforces from agriculture sector have shifted to industrial sector as depicted in figure 3. This phenomenal has clearly constrained the development of agriculture sector. Nonetheless, because of the success of this strategy in accelerating national economy, it remains active until today.

Currently, the Thai government continues to invest heavily to build up capacity and move towards industrialization. To promote this economic transformation, the government proclaims the Thailand 4.0 or innovation-driven economy as the major strategy where the emphasis is on smart farming, smart and innovation-driven enterprises, high-value services, and skilled and professional labour (MOC, 2017). To achieve this target, several development projects are devised and implemented. For example, the government approved a plan to invest more than 1.80 trillion baht in improving national infrastructure (MOT, 2016). The government also approved US\$ 45 billion project to develop the eastern provinces or the Eastern Economic Corridor (EEC), to become the technological manufacturing and service hub in ASEAN economic zones. Also, more than 10 special economic zones (ZES) are promoted and emerged in different parts of the country (NESDB, 2016). In response to the positive effect of government's policies, the FDI increased exponentially to US\$ 18.34 billion in 2018 with main investments on steel products, machinery and vehicles, electronic equipment, chemical and plastics (BOI, 2018). In 2018, its GDP and export value grew by 4.6% and 12.30% respectively (Bank of Thailand, 2018).

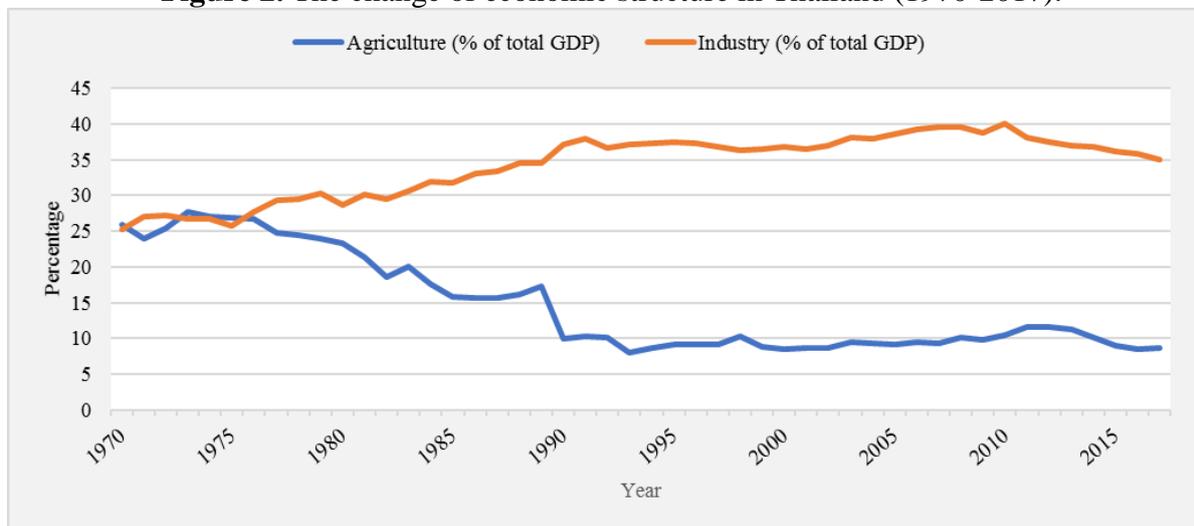
However, despite this rapid development, the economic activities and industrialisation process only concentrates in Bangkok, the capital city of Thailand, and its metro regions (Charoenloet, 2015; Pansuwan, 2013). Meanwhile, most part of Thailand remains heavily reliant on the activities from traditional industry such as agriculture. As a result, there is a big gap of income per capita between the Bangkok Metro Region (BMR) where the highest reached 481,118 baht per year in 2014, with another part of the country where the lowest reached 43,385 baht per year (NSO, 2018). This income disparity is 11 times difference.

**Figure 1.** Industry, Agriculture and Economic Growth in Thailand (1970-2017)



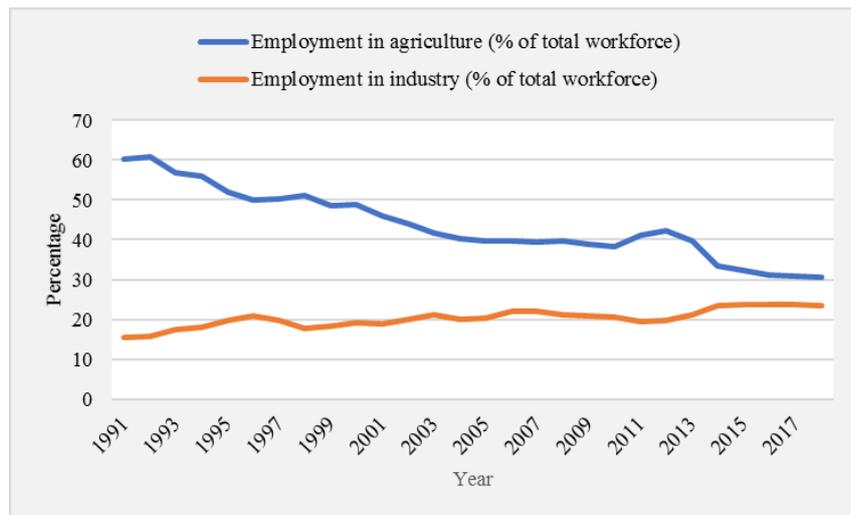
*Source: United Nations Conference on Trade and Development (UNCTAD, 2019).*

**Figure 2.** The change of economic structure in Thailand (1970-2017).



*Source: United Nations Conference on Trade and Development (UNCTAD, 2019).*

**Figure 3.** An employment distribution by sector (1991-2017)



*Source: International Labour Organisation Statistics (ILO, 2019).*

## METHODOLOGY

This study is a qualitative case study research which is guided by the main research question: how has industrialisation impacted on the Thai sugarcane industry and how government respond to maintain and protect local communities?

A qualitative case study design was adopted in order to gain rich knowledge of sugar industry stakeholder experiences and perspectives (Yin, 2013). In addition, it enabled the researchers to gain deep understanding of the nature and complexity of industrialisations impacts on the industry at the local level (Benbasat, Goldstein, & Mead, 1987).

This study was conducted in Suphan Buri province which locates in the central part of Thailand and less than 100 km from the BMR. The case study centred around a small sugar factory with a crushing capacity of 5,500 tons/day. Setting up in 1958, it has become one of the oldest sugar factories operating in Thailand. Sugarcane production back to the early day seemed to gain much interest from the locals. It is not surprising because there were not many factories, except textile, in Thailand as they are today. As the economic activities were growing, more people came to live closer to the factory. As a result, a temple nearby was renovated in 1962. This temple was not only a place to connect the locals but also for children to get an education. In 2005, a university was opened, locating less than 1 km from factory plant. Since then the number of apartments, hotels, convenient stores, banks, restaurant and bars have doubled. Whereas, in the past, the factory was surrounded with large paddy fields and scattered with only a few houses, it, today, locates right into the centre of very large communities with population of more than 45,000 people. However, it seems that sugarcane activities have become less attractive to the locals. The factory that used to be seen as the most modern one has become very old and outdated. While some factory buildings remain operated, other are crumbled and left attended. The temple is no longer used to educate children because several private and public schools in the area have emerged.

The methods for the collection of data included documentary content analysis, observational notes and qualitative semi-structured interviews. In total, 20 semi-structured inter-

views were conducted. The participants included five farmers, three farming workers, three factory workers, three factory managers, three village heads and three government officials. They were selected because they have extensive knowledge and experience in the fields which are exceedingly valuable to the study. All interviews were conducted face to face at location with participant's preference. Length of the interview was between 45 to 70 minutes. As the interviews were audio recorded and conducted in participant's language, they were transcribed and translated into English for the purposes of analysis and write-up. Analyses of the data was carried out according to the steps outlined by Miles, Huberman, and Saldana (2014) which include data condensation, data display, and drawing and verifying conclusion.

## **FINDINGS**

From the data, it appears that the sugarcane production in Suphan Buri province is under threat from the forces of industrialization. Three key affected aspects include diminishing availability of farming land, the workforce issues (e.g., cost, labour shortage, attitude and kills of workers) and declining capital investment, all of which undermine the industry's overall performance and its future.

### **Diminishing Availability of Farming Land**

Farmers in this region grow sugarcane on their own land as well as leased land. However, sugarcane cultivated area expected to decline around 14% from 2016/17 to 2017/18 (OCSB, 2018). There are three possible reasons contributing to this reduction; the landowners take their land back after the lease is expired, farmers fail to rent the land, and sugarcane cultivation deems less profitable for farmers who own the land.

From the interview data, it seems that most leased land in this region is owned by wealthy people from Bangkok who comes to the village, buy the land, and then rent them back to the local farmers. Giving that they apparently are not involved in, concerned with or benefit from, what happens with sugarcane production, they may take back their land when the lease agreement expires. As one farmer observed;

I used to grow sugarcane on land more about 330 rais..... Today, I only grow about 270 rais because the landowner took their land back (60 rais) to build a commercial building [Cane farmer, FAG2].

While some landowners take their land back and convert it into commercial buildings and housing estates to support the growing population and economic activities, other would sell their land to the developers which is clearly worth more than renting it to the farmers. Given that most of farmland is very near a city and town, demand for land has increased significantly which drives up the land price. In fact, the land value in Thailand according to Treasury Department (2019) has increased, on average, about 25% between 2012-2019. Thus, it becomes more attractive for the landowners to sell their land for a big money. Second, because growing sugarcane on leased land is insecure, some farmers may not want to make a long-term investment such as building well or pond to enhance farming productivity. As a result, sugarcane yield could be reduced which later affecting farmer's income and ability to rent the land. In an interview with one of the farmers he said that "I need to think more when I want to build a pond on leased land" [Cane farmer, FAG5]. Apparently, they are likely to fail to compete for the land with other crop growers, espe-

cially rice growers. Thus, they either stop cultivating sugarcane or need to lease and cultivate sugarcane on land with low quality. Third, another reason contributing to the decline of sugarcane land is when farmers consider that sugarcane cultivation is less profitable. It particularly happens when the world sugar price declines whereby affecting the domestic price of sugarcane. As one cane farmer pointed out;

I am not actually cutting sugarcane yet, but I now know my destiny. Sugarcane price could be very bad this year because of the low world sugar price..... Currently, I am preparing to sell parts of my land to pay for the dept. And I may change to other crops if it is really that bad [Cane farmer, FAMG].

The world sugar price is an essential aspect that determine the sugarcane production. Unfortunately, it declined from 1,050 baht/ton in 2015/16 to only 880 baht/ton in 2016/17. It expected decline to only 680 baht/ton for 2017/18 season. This phenomenal scared off farmer and made them sceptical about sugarcane opportunities. Some farmers may decide to switch to a more profitable crop, especially rice, as one factory manager remarked “when growing rice becomes more profitable, sugarcane growers will have a tendency to switch to rice cultivation” [Factory manager, FAMD]. If farmers own the land, in particular, they simply abolish sugarcane field and switch to other crops. Also, due to the growing economic activities which is obviously rooted from industrialisation process, farmers have more options that they can benefit from their land. In the worst-case scenario, some farmers may be forced to sell their land to repay the debt. Given that sugarcane cultivation is hard work and contains with numerous challenges, farmers might be tempted to sell their land, especially now that the land value is increasing.

### **Workforce Issues**

Sugar production in Thailand employs a significant number of people, and this farming community is no exception. For clarification and discussion, we classified the sugarcane workforce into farming labour, transportation labour and factory labour. Regarding faming workers, farmers mainly source them from the local and ISAN region<sup>61</sup>. These workers are paid with the different rate depending on the type of work and amount of cane they harvest in the workday. For example, cane cutters earn 7 baht per pile or around 100 canes straws for cutting burnt cane and 10 baht per pile for cutting fresh cane. Regarding transportation workers, they are mostly locals and receive payment around 500 baht per trip. Similarly, the factory staff is mostly locals. Currently, the factory employs around 200 permanent staff while about 200 seasonal staff will be hired during the milling season.

From the data, it appears that the labour shortage is one of the major concerns facing this farming community. This issue, in fact, is said to be responsible for the rise of labour cost and blamed for the increasing burnt cane in the area. Clearly, there are several reasons why many people have shied away from sugarcane activities. Talking about this issue one participant pointed out

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<sup>61</sup> the north-eastern region of Thailand which is also known as the largest and the lowest income per capita

Nowadays, people do not want to work in agricultural areas..... It is a hard work.....They do not want to cut cane and swing the machete under extreme heat..... Honestly, I have no intention to have my children work in this sector. I want them to work in a company or office, so they can have a good life and not become like me [Cane Farmer, FAG5]

This comment highlights some of the reason behind locals' decision not to work in sugarcane activities; demanding work, low wage, no career advancement. Apparently, many parents ensure that their children get a better education and urge them to get away from farm works. Given that many jobs are now available with better work condition, wages and more career opportunities, several villagers, especially young college graduates, have increasingly left their hometown in the hope of finding a good job in the city and the BMR. Another interesting reason is that sugarcane production does not require labour every day and that it is intensively needed during the milling season. This job insecurity makes sugarcane activity becomes less attractive to the seasonal workers and forces them to move to different industry as one factory manager said that "some seasonal staff will likely to leave after gaining some skills and experiences. It is very difficult for us to retain them because we cannot provide them the job security and not enough incentive" [Factory manager, FAPM]. This issue also found in farming workers and transportation workers. Because most of them are skilled labour with a bachelor's degree, with the exception of farming workers, they can easily switch to other jobs that offer them better conditions (e.g., less demanding, high wage, good opportunity for career advancement, security).

Apart from labour shortage, the skills and attitude issues of workers were also mentioned. Regarding farming workers, it is said that they may not perform the task effectively such as fertilizing, weeding and cutting sugarcane. Because there is no incentive such as career development or extra payment, these workers seem to have less motivation to learn and improve their skills. Some farmers may avoid telling farming workers what to do because these workers will simply walk away if they are unhappy. One cane farmer, for example, sarcastically said that "sometimes they (cane cutters) do not listen to me.....if I keep telling them how to cut sugarcane, I might be chopped by machete" [Cane farmer, FAG4]. Concerning factory staff, factory appears to concern about the new seasonal staff who seem to lack of skills and experience in sugar processing. As a result, its operation is constantly affected as one factory manager observed "In the milling season, half of the activities are done by temporary staff. Some may have experience, while other may not. The problem is likely involving new staffs that do not have skills and knowledge" [Factory manager, FAPM]. Factory also faces issue involved its aging staff. Apparently, this staff, regardless of their experience and manual skills, are very struggled to work with a new stalled equipment. In an interview with one factory manager he goes as far as to say that "in our case, if we install new technology, it will give us more trouble than supporting us because most of our aging staffs do not know how to operate them" [Factory manager, FAFD].

### **Low Capital Investment**

As was pointed out earlier, the factory is one of the oldest sugar factories in Thailand. It was funded by the government and built in 1958. In 1998, the cabinet approved a plan to transfer this factory to the private sector. It was eventually bought by one business family in Thailand. However, since then, the new owner has not invested substantially to make the factory more competitive. From the interview data, it appears that the factory provides

insufficient support such as loan, farming vehicle, and knowledge to its contracted farmers. As one farmer said that “I want factory to provide me the loan quickly so that I can spend it on fertilizer and labour on time. Currently, I need to wait very long” [Cane farmer, FAG1]. Also, while the factory offers some training to its staff, it deems insufficient. What is also interesting is that since after 20 years of ownership, the factory only did one major modification. This happened in 2014/15 where only machinery at the milling station were replaced and upgraded while in other stations continue to operate with low capacity and old machinery. As a result, after the modification factory continues to experience an operational problem with high downtime. In 2015/16, the first season after the maintenance, it faced significant stoppage time of 1,100 hours, in which, 477 hours was found at the boiling house (FAREPORT1, 2017). During that year, the factory only secured 258,000 tons of sugarcane compared to 365,700 tons in its previous year. Meanwhile, the sugar extraction rate<sup>62</sup> dropped from 79.50% to 75.01%. As a result, it processed sugar around 85.52 kg per ton cane compared to 104.05 of the national average.

There are some possible explanations for this low capital investment. It seems that this business does not provide an immediate profit to the owner. In fact, it appears that the factory makes a loss for many years as one participant pointed out;

Actually, we made loss every year. Because we are small factory, we cannot compete with other factory for sugarcane in very aspects such as capacity, budget, and technology [Factory manager, FAPM].

Thus, the constant loss from the factory could make the owner think carefully about the investment. It is particularly noteworthy that the profit could be further aggravated by the recent decline of world sugar price. Giving that Thailand’s economy is growing with many new businesses are emerging, the owner has more options to invest and may perhaps yield a better profit. In fact, today he owns many large businesses in Thailand such as in beverage, car leasing and insurance, and land property and real estate. Apparently, these businesses are growing (MOI, 2018). Another reason may involve the land tenure issue. Giving that he does not literally own the land, hence buildings, facilities and even trees within the area of 404 rais that the factory covers, he may become sceptical about making further investment in this property. While the land is purchasable, he has not yet decided to buy it. It may be because, on one hand, it is considered too expensive. It is estimated cost is around 800 million baht (MOF, 2018). On the other hand, the government may decide not to sell this land because, due to its geographical location close to the Bangkok metropolis, it can be used for other purposes or eventually privatised.

## **DISCUSSION AND CONCLUSION**

The effects of industrialisation on national state are far from clear. There is mixed evidence in the literature whether they present a challenge or opportunity to national state. The findings suggest that while industrialisation contribute significantly to the growth of the national economy, they play a key role in the decline of the traditional industry. Particularly, the industrialisation process has led to the decline of sugarcane production area. To accommodate the growing development and populations, the expansion of urban area has been rapid while encroaching on rural villages which force the locals to further move to

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<sup>62</sup> Percentage of sucrose obtained from processing sugarcane

forest area. Because most leased land is owned by rich people combining with increasing price of land and low profit in cane cultivation, sugarcane land can be quickly converted for other purposes. This observation is consistent with a study conducted by (Xu, Li, & Jiao, 2015) which found that a rapid economic development resulting from industrialisation led to the urbanisation process whereby significant farmland are impinged. To increase sugarcane land, one of the key strategies employed by the Thai government is to provide production incentive to encourage rice farmers to switch to cane cultivation. Giving that this incentive is only given to farmers for the first-year plantation while sugarcane's life cycle is four years, some farmers remain sceptical about this policy. Moreover, as the industrial sector is expanded accompanied by potentially increasing export, the labour from the sugarcane industry was transferred to the industrial sector. This finding mirrors those of the previous studies that have examined the relationship of industrialisation and the movement of labour from agriculture sector to the industrial sector (Massey & Espinosa, 1997) (Lewis, 1954). Currently, it seems that the government has done very little to increase the agriculture workforce. To soften the impacts of this issue, however, the OCSB<sup>63</sup> is considering providing a loan to farmers with a very low interest of 2% to encourage them to purchase cane harvester. Still, the effect of this strategy remains unclear, especially when considering that cane harvester is expensive with high depreciated cost. Meanwhile, it only operates during the milling season. Furthermore, the study finds that the rapid growth of the national economy plays a crucial part in the decision making of the factory's owner. Due to the low profit in the agriculture sector, investment is likely to be made in other areas where the profit can be maximised.

This study looks to contribute to the literature by examining the impact of this growing economic integration along with the industrial economic transformation on the decline of the local industry. Some important policy insights can be extracted from the findings of this study. First, it should aim to encourage and recruit young people to get more involved in sugarcane activity by presenting and making it a viable and professional option of career. This can be done by introducing the heavy use of mechanisation and modern technology which make farming works less physical demanding. To increase sugarcane production, a policy should aim to increase farming productivity rather than depending on increasing the size of sugarcane planted area.

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<sup>63</sup> Office of the Cane and Sugar Board

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## TEACHING ENGLISH-LANGUAGE METAPHORS TO THAI STUDENTS

by

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### ABSTRACT

This paper assesses the benefits of giving an introductory-level lesson on English-language metaphors and how the lesson can increase students' knowledge and understanding of metaphors as well as assesses students' attitudes and perceptions toward the lesson. The instruments used were a pretest and posttest to ascertain if there is a significant difference in the students' knowledge and understanding of the lesson before and after the lesson, and a five-point questionnaire with open-ended questions to measure attitudes and perceptions. The subjects of the study were 70 students in three classes in the Integrated English Language Skills Development course held at National Institute of Development Administration (NIDA), Bangkok, Thailand in 2019. It was found that a need does exist for the lesson. Students' knowledge and understanding was higher in the post-tests than in the pretests with a statistical significance below .05. The mean scores of students' perceptions and attitudes were at agree to strongly agree level. This research should benefit other pedagogues who may be considering the teaching of metaphors and it is recommended that an introductory lesson explaining the fundamentals of the theory and practice of metaphors be included in similar courses.

**KEY WORDS:** Metaphor; Teaching English as a foreign language (TEFL), teaching metaphor comprehension

### INTRODUCTION

#### **Rationale of the Study**

Teaching English to Thai master's degree students at the National Institute of Development Administration (NIDA) in the course LC4002 Integrated English Language Skills Development using the textbook *Academic Encounters* (Sanabria, 2nd ed., 2012), over time the researcher became aware of an issue which appeared to be hampering student progress. The textbook focuses on developing the four skills through listening, note taking and discussion using "[r]eal-world academic language" to create "[a]n authentic, intensive experience" using college-level American sociological subject matter. Throughout the textbook can be found examples of metaphors as they are ubiquitous and essential to both language and cognition (Lakoff & Johnson, 1980; Goatly, 1997) and unavoidable in any text claiming to create an authentic experience.

The text, however, gives limited guidance regarding metaphors, what they are or how to interpret them, though a definition for the specific metaphors mentioned are often provided. For example, on page nine the metaphor "black sheep" with the definition "a family member with a bad reputation" is included and further on in pages 25–26, an activity asks

students to match idioms, many of which can be defined as metaphors, found in six short conversations to the definitions of the idioms. On pages 67–68, a simple definition of metaphor, “Metaphors are words that give visual pictures of ideas and make the ideas easier to understand” is provided as part of an activity to match seven metaphors related to discrimination against women in the workplace with their definitions. However, although the students working in groups, with the aid of smart phones and other devices to access the Internet, are typically able to make the correct matches, on further questioning the students indicated that many did not understand why their answers were correct and that comprehending metaphors remained a major obstacle to their understanding of the textbook and to their learning of English. If the understanding of metaphors is a challenge for advanced learners (Filipczuk, 2015), then the challenge faced by early intermediate learners, as the majority of students enrolled in LC4002 can be described, can only be accentuated.

To address this need, the researcher developed an “Introduction to Understanding Metaphors” lesson consisting of a PowerPoint presentation accompanied by a two-page handout containing information and activities. Thus, the purpose of this research is to measure the effectiveness of the lesson and the response of the students to it. The aim of the research is to quantify if the lesson is effective and to what degree and in which ways can it be further developed. Similarly, the researcher will benefit from quantifying the students’ attitudes and perceptions toward the lesson. Thus, the researcher should be equipped to improve the lesson for future cohorts. Moreover, other pedagogues who are in a similar position of teaching of metaphors in a second or foreign language classroom may benefit from the sharing of this research. It is also hoped that the research will contribute to the body of literature on this subject of metaphor comprehension which, as Hoang (2014) points out, remains insufficient.

## **Context**

Convenience sampling was used as the students being investigated were participating in LC4002 course. The course, conducted by the Graduate School of Language and Communication (GSLC), is a general English course for master’s degree candidates from NIDA’s other schools. The research was conducted during the second semester of B.E. 2561 (January-April 2019) with three classes with a total number of 70 participants.

The students taking this course either do not pass NIDA’s English language entrance examination; have not graduated with a degree from an academic program where English is a medium of instruction within the last three years with an adequate GPA; have an insufficient TOEFL or IELTS score; or do not speak English as their mother tongue and have permanent residence in an English-speaking country. The English language proficiency level can overall be typically described as early intermediate; however, the textbook is intended for use with intermediate to high intermediate students, which may account for its metaphorical content.

## **RESEARCH OBJECTIVES AND QUESTIONS**

The aim of the research is to assess the effectiveness of the lesson which consisted of a handout and an accompanying PowerPoint presentation developed by the researcher (RQ1); and assesses the students’ attitudes and perceptions toward it (RQ2). Thus, the following research questions were formulated:

**RQ1:** What is the effectiveness of the Introduction to Understanding Metaphors lesson?

**RQ2:** What are the students' attitudes and perceptions toward the Introduction to Understanding Metaphors lesson?

## **LITERATURE REVIEW**

A large number of academics from a diverse range of disciplines have developed a number of theories for understanding metaphors as linguistic products and their role in language; however, researchers agree on a general description of what is a "metaphor" (Cameron & Low, 1999). For the purposes of the current study, this linguistic phenomenon is defined according to Aristotle's original definition as a "rhetorical figure with two sense... (1) All figures of speech that achieve their effect through association, comparison, and resemblance... [and] (2) A figure of speech which concisely compares two things by saying that one is the other" (McArthur, 1992, p. 653).

Lakoff and Johnson (1980) stated that "the essence of metaphor is understanding and experiencing one kind of thing in terms of another" (1980, p. 5) and argued strongly that metaphor is inextricable both in terms of ordinary language and thought itself. People regularly use metaphors to both convey thoughts and understand the world while not necessarily being aware that they are using them (Kalyoncu, 2012 as cited in Colak, 2015). Thus, it can be said that metaphors are ubiquitous and the ability to comprehend metaphors when one hears them and also to construct them oneself is essential for language learners in the acquisition of a second or foreign language.

However, comprehending metaphors can be a serious issue facing students, impacting on their comprehension in class as well as affecting their comprehension of the English language as a whole. Filipczuk (2015), who investigated the effectiveness of teaching of metaphors to advanced adult second language (L2) learners in Poland stated that "understanding idioms, phrasal verbs or other expressions which are most often linguistic realizations of metaphors used for conveying implicit meaning poses a considerable challenge for learners. Consequently, on the one hand, they avoid using such language and on the other hand, they fail to assimilate such new vocabulary" (Filipczuk, 2015, p. 956). Filipczuk conducted a lesson intended to improve metaphor comprehension and found that the learners were better able to analyze metaphors and create their own ones.

Given the substantial difficulty facing learners in learning to understand and use metaphors themselves and the critical importance of being able to do so in order to progress, it has been argued that students need to increase their "metaphoric competence" and pedagogues should teach and practice metaphors in the classroom to increase students' comprehension of higher order meaning and fluency (Low, 1988). Others, such as MacLennan (1994) and Lazar (1996) also proposed explicit teaching on metaphor in the classroom, given the fundamental role it plays in language, which Lazar argued is a topic too often neglected.

Hoang (2014) conducted a wide-ranging review of the literature on metaphor and L2 learning covering such diverse areas as: metaphor awareness; conceptual metaphor theory as a pedagogical approach; metaphor and skill development; metaphors as challenges to language learners; metaphorical competence; and metaphoric processing, including mechanisms, first language and culture, proficiency, and cognitive style. Hoang concluded that although research into metaphor and L2 education had grown significantly in recent years,

it nevertheless remains insufficient and that the teaching of figurative expressions and metaphors should be explicitly included in teaching materials. Finally, Kellerman (2001, as cited in Littlemore & Low, 2006) have stated that metaphor has yet to be significantly incorporated into teaching materials or into the mainstream of pedagogic practice.

Given the essential nature of metaphor to language and language comprehension (Lakoff & Johnson, 1980; Kalyoncu, 2012), that comprehending metaphors is a serious issue facing L2 learners (Filipczuk, 2015), and that there is a need for pedagogues to increase the teaching and practicing of metaphors in the classroom (Hoang, 2014; Kellerman, 2001; Lazar, 1996; Littlemore & Low, 2006; Low, 1988; MacLennan, 1994), the current study sought to ascertain whether the lesson improved the metaphor proficiency of learners as found by Filipczuk (2015) (RQ1) and quantified the attitudes and perceptions of the students toward the lesson (RQ2).

## **METHODOLOGY**

### **Overview**

Before the beginning of the Introduction to Understanding Metaphors lesson, students took the pretest composed of 10 multiple-choice questions. After the pretest, they were given the lesson. At completion, students took the posttest of the same 10 multiple-choice question quiz. Participants were then asked to answer an attitudes and perceptions questionnaire.

### **Instruments**

To answer the first research question, in the third class of the semester, before the activity on pages 25–26, which requires students to comprehend several instances of metaphors, the students were given a multiple question pretest, the lesson, the posttest, and the questionnaire. The pretest and posttest consisted of a brief definition of metaphor. The definition given was drawn from the textbook on page 67 “Metaphors are words that give visual pictures of ideas and make the ideas easier to understand.” Thus the brief explanation given was the same as the students would eventually encounter as they progressed through the textbook. The 10 metaphors provided are very commonly known among native English speakers, with multiple-choice answers that included three incorrect literal interpretations of the meaning of the metaphor and one correct figurative interpretation. For example, “RECIPE FOR DISASTER: a) To have everything needed for something bad to happen; b) A recipe that will be disastrous if cooked; c) A disaster in the kitchen; d) To have all the ingredients for a delicious meal but that goes terribly wrong.

The lesson was taught, lasting approximately 50 minutes. The 10 metaphors in the pre/posttest were not included in the lesson. After the lesson, the posttest was completed to determine if there has been any change in comprehension. Finally, to answer the second research question as well as shed light on the first, an attitudes and perceptions questionnaire was distributed composed of two sections. The first section was a Likert-type five-point questionnaire of 10 questions; and the second section consisted of five open-ended questions. Neither of the tests nor the questionnaire required the students to provide their names or other identifying information.

The data collected in the tests were statistically analyzed using SPSS to ascertain if there was a significant difference in students' knowledge and understanding before and after the lesson to measure the effectiveness of the lesson. Likewise, the questionnaire was statistically analyzed to measure students' attitudes and perceptions toward the lesson.

### THE INTRODUCTION TO UNDERSTANDING METAPHORS LESSON

The lesson consisted of a two-page A4 handout and PowerPoint presentation. The lesson began with a brief definition of metaphor, followed by an example of a Thai-language metaphor, then three examples of common English metaphors which were illustrated on the PowerPoint by pictures downloaded from the Internet to aid student comprehension. After that, students were asked to work in small groups to interpret five metaphors without the use of aids such as the Internet or smartphones. These metaphors were accompanied by a brief example using the metaphor and two images illustrating the example on the PowerPoint that both helped explain the content of the example metaphor as well as the incorrect literal meaning. These were included to help students understand the metaphors. For example, "COLD FEET: Alex was supposed to go with us on a safari in Africa, but at the last minute he got *cold feet* and cancelled." One image was of a jeep carrying tourists following lions in Africa, illustrating the meaning of "safari," not "cold feet;" and the other image was a cartoon of a boy walking on ice, illustrating the literal meaning of "cold feet." If students were permitted to use the Internet, then they would simply search the term and find the answer without understanding the linguistic processes in play, which would defeat the point of the lesson. After a few minutes of students working in groups, different groups were asked to tell the class their answers. The answers from the groups were a mix of accurate and erroneous interpretations, typically literal interpretations, which were corrected with explanations.

Students were next asked to provide a meaning for four common metaphors without being given examples. An image to illustrate the literal meaning of each metaphor that did not convey the figurative meaning was included to aid students. Students worked in groups and were then asked to tell the class their answers, again with a mix of accurate and erroneous interpretations.

After that, it was explained that people use metaphors "to convey emotions and to say things in more creative and vivid ways." To practice this concept, students first had to match five metaphors related to plants with literal definitions given, for example, "HYBRID: the result of mixing, through reproduction, two plants of different breeds" as well as an image shown on PowerPoint, into the correct blank spaces of five sentences. The aforementioned example would be inserted in the following: "The approach taken by the researcher was a/an \_\_\_\_\_ of both qualitative and quantitative approaches." The students worked in groups and were asked to tell the class their answers with a mix of correct and incorrect responses.

Lastly, students were asked to create five metaphors relating to the world around them and explain the literal meaning, for example, "My classmate is a/an \_\_\_\_\_; because \_\_\_\_\_" (adapted from Colak, 2014). Groups were asked to tell the class their answers, again with a mix of those who could form metaphors and those who could not, with an explanation for those who could not as to why their selection was inappropriate. Those students then formulated a satisfactory metaphor. An example of a correct response is: "The teacher is a compass because they show you the right way."

## RESULTS

### Pretests and Posttests

Mean scores of pretests and posttests were analyzed using paired *t*-test to measure the effectiveness of the lesson in terms of students' understanding and knowledge. The results are as follows:

**Table 1.**

*Comparison of Pretest and Posttest Overall Mean Scores.*

Pre/Posttest	N	Mean	S.D.	<i>t</i>	P-value
Pretest	70	7.79	2.413	-6.043	.000*
Posttest	70	8.81	1.722		

\*sig. <0.05

Table 1 shows pretest and posttest results of students' understanding and knowledge of the lesson. Post-test mean score (Mean = 8.81, S.D. = 1.722) was higher than the pretest mean score (Mean = 7.79, S.D. = 2.413) indicating a significant statistical difference between the two tests.

### Attitudes and Perceptions

A questionnaire employing a five-point Likert scale rating system (1 "strongly disagree," 2 "disagree," 3 "uncertain," 4 "agree," and 5 "strongly agree") was used to assess students' attitudes and perceptions toward the less

**Table 2.***Students' Attitudes and Perceptions.*

Item	N	Min.	Max.	Mean	S.D.
1. I benefited from the lesson on metaphors.	70	2	5	4.37	0.745
2. I know more about metaphors now than before the lesson.	70	1	5	4.24	0.875
3. The lesson helps me improve my understanding of metaphors when I hear them.	70	2	5	4.26	0.630
4. The lesson helps me improve my understanding of metaphors when I read them.	70	2	5	4.20	0.694
5. The lesson helps me improve my ability to say metaphors.	70	1	5	4.01	0.732
6. The lesson helps me improve my ability to write metaphors.	70	1	5	3.96	0.770
7. The content is suitable for my level of English ability.	70	2	5	4.27	0.612
8. The lesson procedure is clear.	70	2	5	4.44	0.605
9. The PowerPoint presentation is helpful.	70	1	5	4.59	0.670
10. The activities of the lesson are challenging.	70	2	4	4.30	0.709
OVERALL MEAN SCORE 4.264					
OVERALL S.D. 0.704					

According to Table 2, which measures students' attitudes and perceptions toward the lesson, all items except for one were within the "strongly agree" range; only Item 6 was in the "agree" range. Overall the mean score was 4.264, which is in strongly agree; while overall standard deviation was 0.704.

### **Open-Ended Questions**

The open-ended questions may provide insight into attitudes and perceptions of the students. The participants were asked five questions.

Question 1, What benefits did you gain from learning with the Understanding Metaphors lesson? In response to this question, 69 of the 70 students made positive comments, while 1 left the space blank. For example, "I understand more about meaning of metaphors and I can practice for reading and speaking." Also, "Capabilities for reading any metaphors in daily life e.g. news, novel, essay and etc."

Question 2, Did your understanding of metaphors improve because of the lesson? In response to this question, 66 students made positive comments, while 4 left the space blank. For example, "Yes, I did, because some metaphors in this lesson I never heard it before so this lesson improve my ability to understand it." Also, "Yes, I knew metaphors before this class however this class make me understand deeper."

Question 3, Did you have difficulties during the lesson? If so, what were they? In response to this question, 38 students responded positively, meaning they did experience difficulties, 27 responded negatively meaning they did not experience difficulties, while 5 left the space blank. Of the students who had no difficulties, an example comment is "No, the lesson is good and clear." The difficulties of the 38 students primarily were concerned with problems with vocabulary and comprehension with comments such as "My difficulties during the lesson were my words store is too few" and "It is hard to understand from explanation by letter but it is easy to understand by picture."

Question 4, Can you apply what you learned during the lesson in your daily life? In response to this question, 65 students made positive comments, while 3 were uncertain and 2 left the space blank. Typical comments from students were, for example, "Yes, I can apply in my daily life when I talk with someone that I cannot directly say." Also, "Yes, I can apply with my conversation with my foreign friends or try to understand words in textbooks."

A summary of the students' responses to the open-ended questions 1 to 4 is provided in Table 3.

**Table 3.**

*Summary of Students' Responses to the Open-Ended Questions 1-4.*

Summary of Question	Positive responses	Negative responses	Uncertain responses	No responses	Total responses
1. What benefits did you gain from learning with the Understanding Metaphors lesson?	69	0	0	1	70
2. Did your understanding of metaphors improve because of the lesson?	66	0	0	4	70
3. Did you have difficulties during the lesson?	38	27	0	5	70
4. Can you apply what you learned during the lesson in your daily life?	65	0	3	2	70

Question 5, Do you have any suggestions? Regarding this question, 30 students stated they had no suggestion, with many noting this is because they believe the lesson to already be suitable with comments such as “I think it very suitable for students” and “Keep on what you are doing. I love your lesson.” Meanwhile, 26 students left the space blank and 14 students made a suggestion. Of the suggestions, four students said to give more examples of metaphors, three students said to increase the time spent on the lesson, three students said to incorporate more metaphors, one student said to use more basic words to describe metaphors, one student said to do more exercises, one student said to use a video describing the meaning of metaphors, and one student said to introduce a game matching metaphors to their meanings.

## DISCUSSION

In the view of this researcher, the textbook used in the course is appropriate as it meets its stated goal of using authentic real-world academic language and includes a wide range of listening and activities that introduces new vocabulary in authentic contexts. Considering that metaphors are ubiquitous and essential to both language and cognition (Lakoff & Johnson, 1980; Goatly, 1997) it is understandable why a textbook intending to create authentic experiences for learners would include numerous metaphors. However, as understanding metaphors is a challenge for even advanced learners (Filipcuk, 2015) and the bulk of students in the course are mostly at early intermediate level, the students’ comprehension of metaphors was identified as an obstacle. To overcome this, the researcher developed a lesson intended only to introduce the concept of metaphors as the time that could be devoted to this important aspect of language was limited and thus other texts on the subject of teaching metaphors such as Littlemore and Low’s *Figurative Thinking and Foreign Language Learning* (2006) could not be used. The current research has been conducted to measure the effectiveness of the lesson and the response of the students to it, forming the basis for the research questions discussed below.

**RQ1:** What is the effectiveness of the Introduction to Understanding Metaphors lesson?

The pretest and posttest demonstrate that the lesson resulted in increased understanding and knowledge of metaphors with a significant difference at the .05 level. The posttest mean score was significantly higher than the pretest, increasing from a mean of = 7.79 (S.D. of 2.413) to 8.81 (S.D. of 1.722). Therefore, the lesson was effective.

**RQ2** What are the students’ attitudes and perceptions toward the Introduction to Understanding Metaphors lesson?

The result from the questionnaire demonstrates that students believe they benefited from the lesson, knew more about metaphors, improved their understanding of the subject in terms of listening, reading, speaking and writing at a level that is suitable for learners and that the lesson follows a clear procedure with a helpful PowerPoint presentation while also challenging students. It is clear from the students’ responses to the open-ended questions that the students benefited from the lesson, improved their understanding of the subject and can apply the knowledge. Furthermore, the comments made by students in response to the five open-ended questions were overwhelmingly positive as is made clear by the summary of these responses shown in Table 3.

## RECOMMENDATIONS

Although the current research is limited in scope, the researcher nevertheless wishes to offer the following recommendations as it is hoped that this research will be of benefit to other pedagogues who may face a similar situation regarding the teaching and learning of English-language metaphors. Teachers using textbooks such as *Academic Encounters* with second or foreign language students that include metaphors which may not be comprehended by the students, should take the time to present an introductory-level lesson explaining the fundamentals of the theory and practice of metaphors, including both how to understand them and how to use them themselves. Students would benefit from such instruction early in the course, at a point in time before encountering too many metaphors.

The researcher's response to the suggestions made by students are as follows. The lesson will be expanded to include more examples of metaphors as suggested by four students and more exercises will be included as suggested by one student, which will increase the time spent on the lesson as suggested by three students. The researcher will also simplify some of the language used in the lesson as suggested by one student and will attempt to find a suitable video that might be shown during the lesson as well as develop a game matching metaphors to their meanings as suggested by another student.

Lastly, the development of this lesson and the conducting of this research raises one last issue of a more general pedagogical nature regarding the teaching of textbooks. Oftentimes, textbooks leave gaps in the material they cover, however, rather than seeing these spaces as negatives, pedagogues should view them as opportunities to develop further material that will benefit their students. Pedagogues should not only be encouraged to fill these spaces with their own material, they should consider investigating the effectiveness of the material to assess its effectiveness and explore how it can be improved for the benefit of future cohorts of students.

### Limitations

This study is limited by the small number of students that participated in it. Also, the participants were drawn solely from three classes of NIDA's LC4002 program in one semester. The study's short duration is a further limitation. Furthermore, verbal interviews with students were not conducted, with the researcher relying solely on written responses for data collection.

### Recommendations for Future Research

Future researchers could develop lessons into similar types of tropes such as analogy, euphemism, similes, exclamations, puns, hyperbole and irony and conduct similar research to measure their effectiveness. This research was conducted with early intermediate groups of students; future inquiries could be conducted with higher level groups. In depth interviews with selected subjects could be included to qualitatively augment the empirical data. Future studies could also include a survey of students at the end of the course, once they had become aware how prevalent metaphors are in the English language, to reveal if their opinion had changed.

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