

Use of Marketing Intelligence Capability for Better Innovation Performance in Mediating Role of Drug Making Capability: A Study on Thailand's Pharmaceutical Sector

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Abstract:

The innovation performance has an extremely important role in the success of any organization and there are various aspects that are found to have an impact on the innovation performance of an organization. So, the current study was effectively conducted in order to find out the impact of two important factors i.e. market orientation and industrial business focus on the innovation performance of an organization in the presence of a mediating variable, product development capability. The data for this purpose was collected from 308 people working as employees of pharmaceutical companies of Thailand. The analysis of these results indicate that the impact of market orientation on innovation performance is significant and in the same way the impact of industrial business focus on innovation preference is also significant. As far as the mediating variable, product development capability is concerned, it can be evaluated from the table that the mediating impact of product development capability between market orientation and innovation performance is not significant. However, the mediating impact of product development capability is significant between industrial business focus and innovation performance. In the last, the researcher has discussed different theoretical, practical and policy making implications related to this study.

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1 Introduction

Intelligence of marketing can be defined as evaluation and collection of information about the market of company. Changes always occur in market and companies must remain aware about these changes

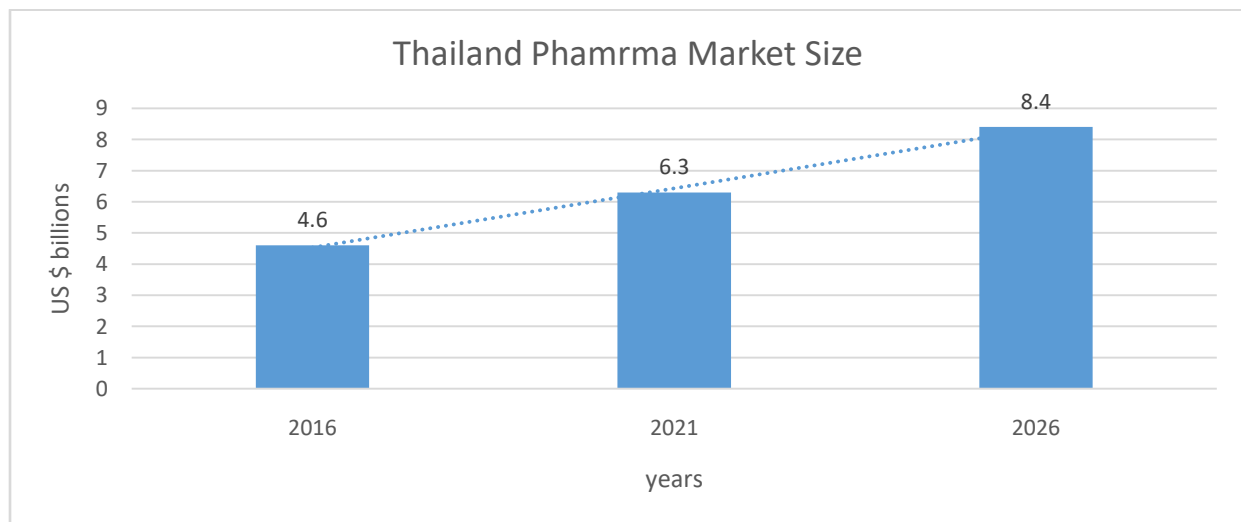
which are about the products of competitors and performance of customers. Two researchers named Ahmed and Tan in 1999 gave a comprehensive explanation of market intelligence which means the intelligence of marketing is seen totally as interacting and continuing structures of procedures equipment or

people to sort, analyze, gather and pertinent is distributed, accurate and timely information which use for marketing in the decision making to enhance the implement control and planning their marketing (Na, Kang, & Jeong, 2019). Researchers have been sticking to the market orientation concept. Furthermore, research towards the concept of market orientation are sticking, these capabilities include linking of partner, sensing of market, capabilities of networking, capability for functions, and capabilities of customers.

these all link with outcomes of the organization that occur in positive manner (Mitrega, Ramos, Forkmann, & Henneberg, 2011). Globally, Thailand is largest market for pharmaceutical as well as for medical tourism, so more than two million foreign patients traveled to Thailand annually. Such growth of medical tourism in Thailand has further increased the demand for pharmaceuticals (Organization, 2019). Following graph showed the rise of pharma market of Thailand with projected figures.

Table 1.1 Thailand Pharma Market Size

years	rise in market size (US \$)
2016	4.6
2021	6.3
2026	8.4



Graph 1.1 Thailand Pharma Market Size

Source (PAMORNMAST, SRIYAKUL, & JERMSITTIPARSERT, 2019)

Along with these, strategy of market also formulated through these capabilities which then lead to better as

well as superior organizational performance or possible that it occur for the sue of operational or

tactical. So that it contribute to the chain's value (ABRHAM, 2019). For measurement of performance, the strategies of business become metrics as best practice. Specifically, the performance of market as overall, performance of customer, performance of products along with performance in financial matters of firms have significant impact due to capabilities of marketing. Similarly, capabilities of innovation can be categorized in two kinds. First is incremental capability of innovation which means that these capabilities of firms in which it products innovation in reefing the existing services and products. Second capability is radical which explain the ability of firms to generate innovation in which transform the existing products in new products (Swaminathan, 2014). Following are the objectives of this study:

- To analyze the impact of market orientation on performance of innovation
- To analyze the impact of business market focus on performance of innovation
- To examine the mediating role of Drug Making Capability on market orientation's impact over innovation performance
- To examine the mediating role of Drug Making Capability on business market focus's impact over innovation performance

The significance of this study is that the Performance of any business have a key driver which is called innovation performance. The enterprise management of innovation have strategy that driven by institutionalizing allow that they maximize the impact of investment for innovation along with align the decision of investment with goals of performance. After introduction in first part of paper, next section will explained the literature of the study. After that in third part the methodology and final or forth section include results and discussion of the study.

2 Literature Review

2.1 Theory of organizational capability

From the routines of organization, Nelson and Winter in 1982 formulated a theory that is called organizational capabilities theory. Routines of organizational as like skills of personal involve technologies and processes that need to familiarized and expected for ensuring operating smoothly the tasks. However, among the employees of organizations that routine of organizations have complex and frequent coordination and communication as well as a number of interaction with environment of working unlike personal skills. They divided routine of organizations in two concepts. The first one is ostensive while the second is performative. Ostensive aspects is conceptual while the performative is basically practical base. In this way, people set their specific task which they perform in specific time or in specific place for specific practice of routine. The capabilities of performance are basically the outcomes which occur as a result of performance which done as a result of routine of organizations similarly, according to this theory, capabilities can be argued as skills in the form of complex bundles, learning collectively and competencies which practice through the routine of organizations which also ensure coordination's in superior manner about the functional activities. That is why, for the advantages the capabilities can be considered as best source. (Lin, Hsu, & Yeh, 2015).

2.2 Impact of Market Orientation on Innovation Performance

A lot of research have been done on the impacts of overall and well known accepted performance constructs of the market orientation (Guo, Wang, Hao, & Saran, 2018). Firms make smarter with the help of Market orientation along with it also enable the market to cope with environment of changing scenario

of business(Boso, Cadogan, & Story, 2017). Furthermore, behavior of Market orientation is consider most important particularly on the markets of industrial base due to need of interaction greatly for the customers of firms. (Helm, Krinner, & Schmalfuß, 2014). In the same way, many researches confirm that the orientation of market is highly critical for organization to produce advantages in competitive situation (Li & Liu, 2014). Similarly, according to Helm, Krinner, and Endres (2020) orientation of market relate to firms have a positive relationship with the performance of firms. Following hypothesis is generated:

H1: impact of market orientation enhance the innovation performance of the firms.

2.3 Impact of Industrial business focus on innovation performance

Market in term of its creation for business can be considered as market that create services for the innovation which lead to the competition that exist in market. Such markets satisfy the desires of customer and encourage companies to implement new and meaningful program for marketing their business. Such activities ultimately enhance the innovation of new services that resultantly enhance the performance of that business or organizations(Na et al., 2019). According to theory, the dynamic capabilities can be called as ability of firm to build, reconfigure and integrate the competencies to adjust with environment which continuously change. Following hypothesis is generated:

H2: impact of industrial business focus enhance the innovation performance of the firms.

2.4 Impact of Market Orientation on Innovation Performance with mediating role of Product/Drug Development Capability

Tsai and Hsu (2014) described that the most popular circle of interest in management of marketing for industries are development as well as management of innovation for products; in the same way, a suitable capability for the intelligence of marketing to increase the developmental capability of product and to ensure superior performance of firm in industrial markets remains absent. This capability is intelligence of marketing which may be differ from one in market of consumers because in markets of industries the relationship of customer tend to be longer along with number of customers become lower in workplace (Helm & Graf, 2018), along with information become limited(Helm et al., 2014)(Liao, Chang, Wu, & Katrichis, 2011). Therefore, such characteristics of market transform in to the intelligence of market which include development of products in the perspective of specialized business and thus specifically concentrate on the performance of firms. For example, sales performance of any products have highly effect on the innovation performance of that product with market orientation (Helm et al., 2020). Following hypothesis is generated:

H3: Impact of Market Orientation on Innovation Performance with mediating role of Product/Drug Development Capability

2.5 Impact of Industrial business focus on innovation performance with Mediating Role of Product/Drug Development Capability

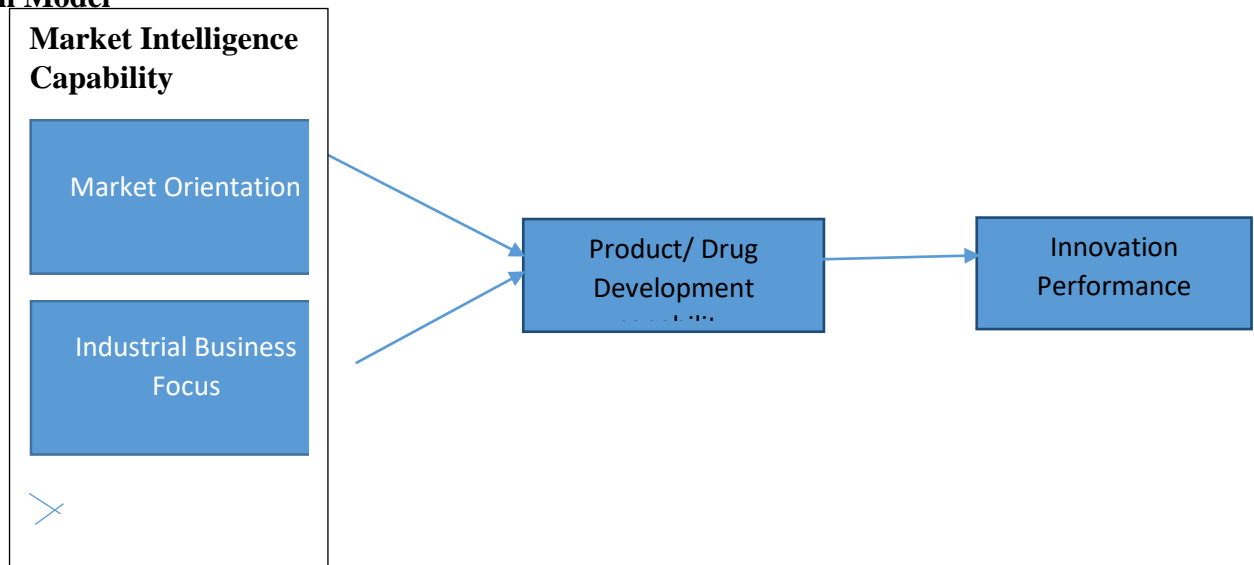
The intelligence of marketing developed a mediating for deployment after the establishment, the capability of architectural that is specialized capability of marketing that is needed still to turn the gathered information in to the performance of organization. such capabilities of market comes under the business

capabilities which focus on the effective development of assets of market for the performance of firms with development of drugs and products (Theodosiou, Kehagias, & Katsikea, 2012). In the same way, Möller and Parvinen (2015) explained that the intelligence capability of marketing developed with the six capability of specialized marketing for the development of product as a key driver for performance of firm (Krippendorff, 2011). With the help of capability which construct for the development of products, we focus on the organizational activities

to develop products (Helm & Graf, 2018). Thus, it become easy to identify the market focus activities for with development of products in enhancing the innovation performance (Helm et al., 2020). Following hypothesis is generated:

H4: Impact of Industrial business focus on innovation performance with Mediating Role of Product/Drug Development Capability

2.6 Research Model



2.7 Sample and Data Collection Procedures

The data for the current study was collected through the use of personally administered questionnaires. The

respondents of the study include the 308 members of the top management of different pharmaceutical companies of Thailand. The reason behind selecting the particular managers was that they were having

enough knowledge and experience of marketing mix strategies, which is the key focus of the study. These managers were having enough knowledge about marketing intelligence processes and how these impact the overall innovation performance of the firm. The companies that have been selected by the researcher are having more than hundred employees and there are some other characteristics upon which these companies have been finally short listed. The questionnaire was designed in a very careful manner and after the preparation of the questionnaire, it was pre tested by the experts from pharmaceutical companies on the basis of their feasibility and comprehension for the collection of required data as per the study. There were no issues identified in the prepared questionnaire as a result of pretesting. In order to avoid the non response bias, the selected sample was subjected to T test so that the behavioral differences among the respondents may be revealed, but the results of T test were positive and no differences were identified.

2.8 Measurement

The researcher has used the measurement items for the variables of the study as developed by the past researches so that the validity and reliability of these measures can be ensured. The variables involved in the current study include market orientation, industrial business focus, and product or drug development capability and innovation performance. These variables along with their measurement items have been discussed here. Innovation performance is the dependent variable of the study and has been measured through 3 items (Laursen & Salter, 2006). Market orientation is the independent variable of the study and contains three sub constructs. All of them have been measured by 12 items. One of these items is “We are constantly comparing with the strengths and weaknesses of our key competitors”. These items have been taken from the study by a researcher (Helm et al.,

2014; Narver & Slater, 1990). Industrial business focus is another independent variable, which contains two sub constructs and these are measured by a total of 11 items, one of which is “The sales force is very actively integrated in the market information gathering process”. These items have been taken from the study by a researcher (Morgan, Katsikeas, & Vorhies, 2012; Souisa, 2018). Product or drug development capability is the mediating variable of the study and it has been measured by using six items, one of which is “Exploit R&D investment to developing new products”. These items have been taken from the study by a researcher (Narver, Slater, & MacLachlan, 2004; Tan & Ahmed, 1999).

2.9 Statistical Analysis

For the analysis of the collected data, SPSS and AMOS have been used. SPSS has been employed for finding out the demographic analysis, descriptive analysis and factor analysis. On the other hand, AMOS has been used for confirmatory factor analysis and structure equation modeling.

3 Data Analysis

3.1 Demographics

As per the demographics of the current study, the data collection process involved 308 respondents. The number of males among them is 161 and the number of females among them is 147. Similarly the number of respondents having graduation is 37, having post graduation are 134, having Masters are 104 and having other educational qualifications are just 33. This indicates the diversity of the respondents in context of educational qualification. As far as the age of the respondents is concerned, the people having age from 21 to 30 years are 73, having age from 31 to 40 years are 89, having age from 41 to 50 years are 97 and those having age more than 50 years are 49 respondents.

3.2 Descriptive Statistics

For the data to be valid and normal to be used in the research, it is important that there must be no outlier present in the data and the data must be skewed in the threshold range. Both of these conditions are being

met by the collected data as per the results obtained in the table 1. This is evident because the maximum and minimum values are in between 1 and 5 while the skewness values are present in between -1 and +1 and thus the data can be used in the study.

Table 1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Std. Error
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
IndBusFo	308	1.00	4.90	3.5659	1.08636	-.836	.139
ProDuDC	308	1.00	5.00	3.5253	1.13861	-.715	.139
InnoPerf	308	1.00	5.00	3.5662	1.09872	-.800	.139
MarketOri	308	1.00	5.00	3.4451	1.10094	-.611	.139
Valid (listwise)	N 308						

3.3 KMO and Bartlett's Test

In table 2, it can be seen that the two important conditions for the factor analysis being useful for the 0.05 as per the given table. This makes it quite clear than as both conditions are satisfied, the factor analysis of the study will be beneficial.

study have been fulfilled. The first condition is that the KMO test value is close to 1.00 and on the other hand, the value of Bartlett's test is less than

Table 2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.949
Bartlett's Test of Sphericity	Approx. Chi-Square	12545.453
	Df	496
	Sig.	.000

3.4 Rotated Component Matrix

As far as the factor loading values given in table 3 are concerned, it is very clear that almost all the values for

various indicators are greater than 0.7 which is necessary in order to make the collected data eligible and valid. Furthermore, the researcher has also not observed any kind of cross loading issue.

Table 3: Rotated Component Matrix^a

	Component			
	1	2	3	4
IB1		.640		
IB2		.747		
IB3		.802		
IB4		.837		
IB5		.805		
IB6		.814		
IB7		.806		
IB8		.831		
IB9		.845		
IB10		.857		
IB11		.849		
PD1			.802	
PD2			.828	
PD3			.833	
PD4			.872	
PD5			.890	
PD6			.886	
IP1				.792
IP2				.831
IP3				.858
MO1	.842			
MO2	.862			
MO3	.870			
MO4	.896			
MO5	.891			
MO6	.884			
MO7	.863			
MO8	.836			
MO9	.848			
MO10	.851			
MO11	.818			
MO12	.845			

3.5 Convergent and Discriminant Validity

As far as the convergent validity is concerned, it is necessary for the data that the values for all variables must be greater than 0.7 in case of composite reliability and must be greater than 0.5 in case of average variance extracted (Hassan, Hameed, Basheer,

& Ali, 2020; Iqbal & Hameed, 2020). Moreover, the factor loading values must be different for all the variables so that they are not related to each other. The results of convergent and discriminant validity presented in table 4, confirm that all the conditions have been met.

Table 4: Convergent and Discriminant Validity

	CR	AVE	MSV	MO	IB	PD	IP
MO	0.926	0.776	0.263	0.881			
IB	0.968	0.732	0.283	0.513	0.855		
PD	0.953	0.773	0.298	0.320	0.532	0.879	
IP	0.927	0.809	0.298	0.430	0.516	0.546	0.899

3.6 Confirmatory Factors Analysis

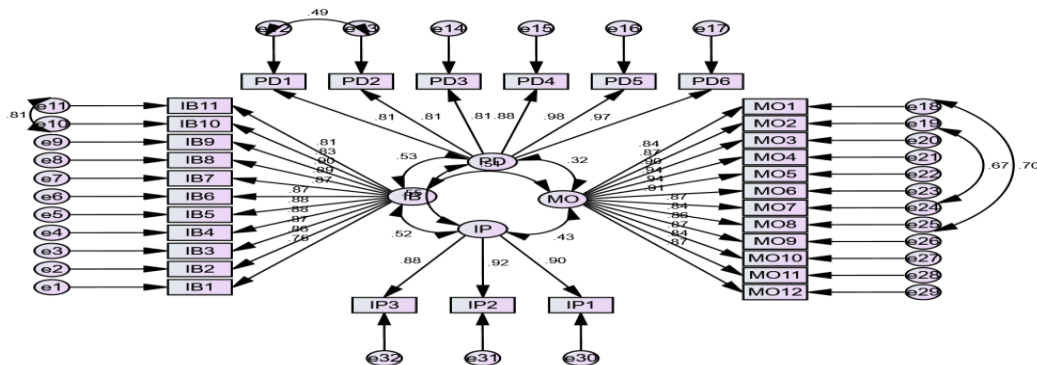
Confirmatory factor analysis is used to find out the fitness level of the hypothetical model presented by the researcher. According to the results in table 5, the

values for all the indicators of CFA are found to be present in the threshold range. It clears that the hypothetical model is fit for use.

Table 5: Confirmatory Factors Analysis

Indicators	Threshold range	Current values
CMIN/DF	Less or equal 3	2.387
GFI	Equal or greater .80	.819
CFI	Equal or greater .90	.950
IFI	Equal or greater .90	.950
RMSEA	Less or equal .08	.067

Figure 1: CFA



3.7 Structural Equation Modeling

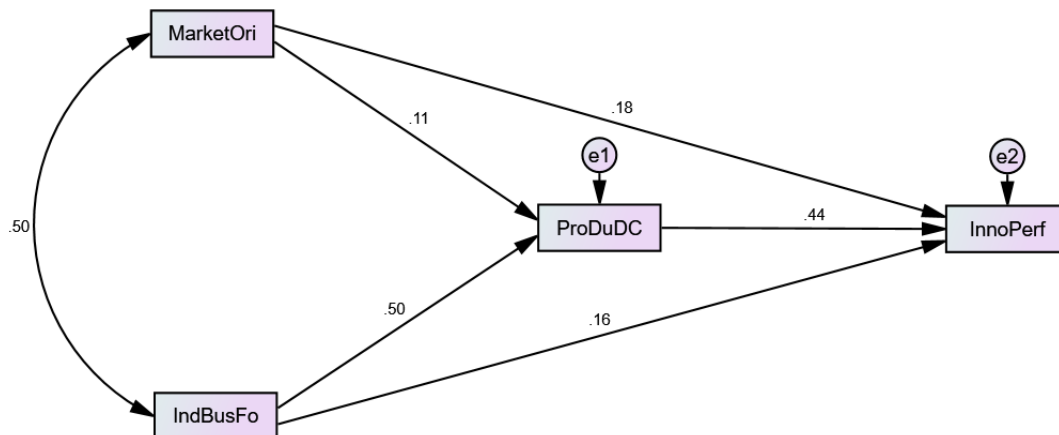
The results of structural equation modeling have been presented in the table 6. According to this table, it is evident that the impact of market orientation on innovation performance is significant and in the same way the impact of industrial business focus on innovation preference is also significant. It means that with increase in one unit or percentage of market orientation and industrial business focus, the

innovation performance will increase by 18.4% and 15.8% respectively. As far as the mediating variable, product development capability is concerned, it can be evaluated from the table that the mediating impact of product development capability between market orientation and innovation performance is not significant. However, the mediating impact of product development capability is significant between industrial business focus and innovation performance.

Table 6: Structural Equation Modeling

Total Effect	IndBusFo	MarketOri	ProDuDC
ProDuDC	.501***	.109	.000
InnoPerf	.377***	.232**	.436***
Direct Effect	IndBusFo	MarketOri	ProDuDC
ProDuDC	.501***	.109	.000
InnoPerf	.158**	.184**	.436**
Indirect Effect	IndBusFo	MarketOri	ProDuDC
ProDuDC	.000	.000	.000
InnoPerf	.219**	.048	.000

Figure 2: SEM



4 Discussion and Conclusion

4.1 Discussion

The current study was effectively conducted in order to find out the impact of two important factors i.e. market orientation and industrial business focus on the innovation performance of an organization in the presence of a mediating variable, product development capability. The first hypothesis has been accepted as the impact of market orientation is significant on innovation performance of the organization, which is in accordance with the studies conducted in the past (Forés & Camisón, 2016; Morita & Machuca, 2018). In the same way, the second hypothesis has also been accepted as the impact of industrial business focus on innovation performance is found to be significant as also presented in the past studies (Kiessling, Isaksson, & Yasar, 2016). However, the the next hypothesis has been rejected because the mediating impact of product development capability between market orientation and innovation performance been found as insignificant, which is in accordance with the studies conducted in the past (Line, Runyan, & Gonzalez-Padron, 2019). The last hypothesis has also been accepted as the mediating impact of product development capability between industrial business focus and innovation performance is significant as also presented in the past studies (Di Francesco, Malavolta, & Lago, 2017; Saranga, George, Beine, & Arnold, 2018).

4.2 Conclusion

The innovation performance plays a very crucial role in the success of any organization and there are various factors that have the impact on the innovation performance of an organization. Therefore, the current study was effectively conducted in order to find out the impact of two important factors i.e. market orientation and industrial business focus on the

innovation performance of an organization in the presence of a mediating variable, product development capability. The results of the study indicate that the impact of independent variables, market orientation and industrial business focus is significant on innovation performance. On the other hand, the mediating impact of product development capability is significant in case of industrial business focus but insignificant in case of market orientation.

4.3 Implications

The researchers and other authors may find this study useful in the context that there is a lot of information about the aspects such as market orientation, industrial business focus, innovation performance and product development capability. The organizations and especially pharmaceutical companies may find it useful in order to enhance their innovation performance.

4.4 Future Research Indications

The current study must be conducted in context of some other countries or regions other than Thailand so that a global perspective of the topic may be obtained. In addition, increase in sample size will be a benefit in the future studies.

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