

Factors Affecting the State Official's Perspectives towards e-Procurement: A Case Study on the Budget Division, Office of Budget and Finance, Royal Thai Police

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Abstract

This research purports to examine the government official's perspectives towards the e-procurement system and to perform a comparative analysis study between personal factors and official perspectives upon the discussed e-procurement matter. The research contains the total of 86 study subjects, all of which are drawn from official personnel working under the Budget Division, Office of Budget and Finance of the Royal Thai Police during the 2016 fiscal year. Research tools employed within this study include uses of questionnaires and relevant analytic tools, namely, Frequency, Percentage, Average Mean (μ), Standard Deviation (σ), t-test, and One-Way ANOVA. The findings reveal that: (1) government official's opinions towards the e-procurement system are generally ranked at high level. Upon considering each aspect individually, it is discovered that with regards to the implementation and process of running e-procurement purchasing system along with the personnel's understanding towards such topic, these three factors are identified to be at high level. On the other hand, the electronic communication of the e-procurement system is generally ranked as low; (2) a comparative study between personal factors and those affecting the bureaucratic official's performances on e-procurement reveal that sex, marital status, education background, and duration of service do not contribute to differences of opinion upon such issue. In addition, when considering different factors of age, position ranking, and monthly income, these factors generate a statistically significant difference at .05.

Keywords: Electronic Procurement, Budget Division, Office of Budget and Finance, Royal Thai Police

Research Importance

The goal of state reform is to provide the public with effective state service that is accessible, just, and timely as well as to protect and ensure the people's rights and freedom, foster public involvement upon generating policy directions, amendments, and provide assistance needed by the public. As most government policies aim to improve and develop both state and private operations so as to reach the country's sustainable development, transparency and effectiveness are needed in order that the existing state resources can be utilised sufficiently and effectively. Accordingly, with respect to state procurement, without clear understandings and expertise on parts of the relevant working personnel, the running of such operation could not possibly achieve the desired results. The finance and budget reforms have effectively transferred and allocated decision making power to those working directly with the issue, bestowing them with greater responsibility towards national treasury management, creating incentives for the working personnel to improve and develop their performances through various forms of finance and budget management systems (Chalermmeeprasert, 2003).

In the beginning when the electronic Auction (e-Auction) system employed by the state following the ministry of Finance announcement on the regulations vis-à-vis purchasing and

employing via e-Auction was first introduced, several complications and difficulties had manifested. That is to say, it is found that there is no universal standard with regards to auction documents, as a result, each divisions or government units need to set up their own format, of which the public could not access and have an opinion regarding the auctioning off terms of reference. Moreover, the operation process is not adequately clear and precise, for example, in certain occasions, there are staffs from the e-Market Place service provider involved in and during the electronic auction process as well as no observers assigned to the auction room preventing auction participants from contacting those outside the auction room. Consequently, the current e-Auction system is said to be unable to resolve or alleviate problems concerning corruptions in government procurement (Government Supply System Standardisation Office, 2002).

The Budget Division, Office of Budget and Finance is one of many divisions under the Royal Thai Police. Once budget is allocated, the effective process of procurement takes place so as to fulfil and become answerable to the needs and requirements put forward by its working personnel. There are 5 existing procurement methods employed by the Division, namely, price agreement, requesting quotation, price competition, special method, and exceptional case method. As the government recognises the importance of management of procurement, rules and regulations with respect to procurement are laid down in order to avoid and prevent problems which may arise from the ministry of Finance's e-Government procurement (e-GP). For general procurements that are not so high in value, the government allow its staff to conduct and complete the purchase through a method called e-Shopping. However, for those with high procurement value, price competitive, or ones that offer other benefits to state, it is prescribed that these mentioned procurement purchasing should be conducted through the e-Procurement method on the condition that the value of one procurement purchase shall not exceed 2 million Baht in total (Budget Division, Office of Budget and Finance, 2009). Because of this particular direction, it has led the researchers to examine e-Procurement purchasing system. With reference to the aforementioned difficulties that may have risen from the e-Procurement process, it becomes highly interesting for the researchers to carry out the study on the state official's perspectives towards e-Procurement system and to compare and contrast this against personal factors with regards to e-Procurement purchasing executed under the Budget Division, Office of Budget and Finance, the Royal Thai Police.

Literature Review

Principles and Ideas on e-Procurement

Government Supply System Standardisation Office stipulates that an electronic auction system allows and can offer the lowest bidding price, of which such method can be opted for in the event where the goods or services needed are required to be purchased through an auction system that receives the sellers' information from an e-Request for Proposal that is being real-time processed in the designated date and time.

Elements of e-Procurement

1. e-Catalog-This is a place where details and information of the goods and services are recorded, allowing and delivering convenience to both the seller and the supplier who are qualified to undertake the concerned transactions, enabling them to report and make necessary changes to their offered goods and services.
2. E-RFP (Request for Proposal/E-RFQ (Request for Quotation)-The system facilitates processes in connection to e-Procurement system via quotation or price agreement method.
3. e-Auction-This comprises of 2 components, which are (i) Reverse Auction and (ii) Forward Auction.
4. e-data Exchange-A system that connects and puts together relevant information with regards to the seller.

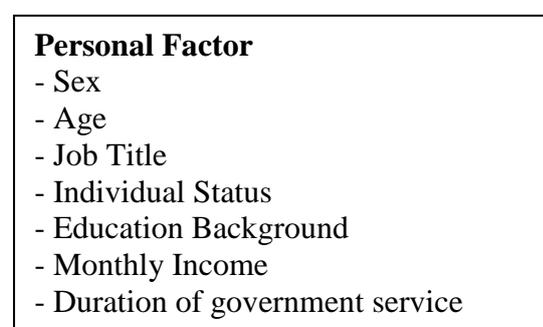
5. www.gprocurement.go.th-An internet website that acts as a data bank and a centre for state procurement information, of which can be accessible by the public. The website contains information regarding, for example, government procurement purchasing plan, data on legal entity registration, tax payment, news and updates concerning state procurement, competing suppliers, government procurement procedures, price announcement, and a list displaying those who abandoned or did not fulfil the contracted work.

6. e-marketplace Service Provider-An auctioneer who acts as a medium between the buyers and the sellers or the service providers, as well as providing and procuring potential sellers and service providers through the use of electronic gateway, with the government main website as a centre. (Government Supply System Standardisation Office, 2002)

Conceptual Framework

Following the revised literature reviews on relevant researches and documents vis-à-vis factors affecting the performance of e-procurement system, the research conceptual framework can be demonstrated as shown below.

Independent Variables



Dependent Variables

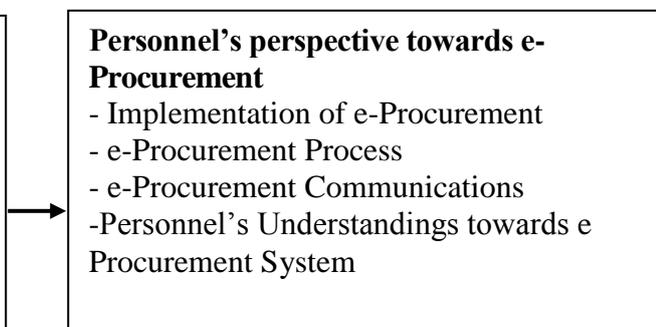


Figure 1 Research Conceptual Framework

Research Methodology

Research Subject and Sampling Group

This research comprises of the total of 86 study subjects, all of which are drawn from official personnel working under the Budget Division, Office of Budget and Finance of the Royal Thai Police during the 2016 fiscal year. (Personnel Division Police, Force account categorised by divisions under the Budget Division, Office of Budget and Finance, data gathered during the month of September 2016)

Research Tool

The research tools employed within this study are questionnaires which are sectioned into 2 parts: (1) information regarding the personal factors of the respondents and (2) data with respect to the personnel's perspectives towards the e-Procurement system as carried out by the Budget Division, Office of the Budget and Finance, The Royal Thai Police.

Data Analysis and Mode of Employed Statistics

This research utilises 3 ready-to-use statistic analytic tools, which are listed below:

1. General information of the respondents, namely, sex, age, title rankings, marital status, education background, monthly income, and the duration of government service, all of which are analysed using Frequency and Percentage
2. Analysis on the state personnel's perspectives towards e-Procurement system using Average Mean (μ), and Standard Deviation (σ)
3. Comparative analysis of dependent variables through t-test, F-test, and the LSD method

Research Finding

General information of the questionnaire's respondents

Upon assessing the general information of the participated respondents, 66 of the subjects are female (84.62%) and 12 are male (15.38%). Moreover, 32 respondents age 41 years old and higher (41.03%), 26 respondents are recorded to be between 31-40 years old (33.33%), 30 subjects of those between the ages of 18-30 years old (25.64%). With respect to police title rankings, 30 respondents are listed between Police Major (Pol.Maj.) and Police Colonel (38.46%) and also 30 respondents are identified as ranked between Police Lance Corporal and Police Senior Sergeant Major (38.46%). In addition, there are 18 police subjects who are ranked between Police Sub-Lieutenant and Police Captain, of which are accounting to 23.08%. Considering the marital status, there are 44 of those who report single (56.41%) and 34 subjects that are married (43.59%). Vis-à-vis education background, there are 50 of those who contain undergraduate degree (64.10%) and 28 of the total respondents hold at least an undergraduate degree or higher (35.90%). With respect to a factor of monthly income, there are 30 of those who earn a monthly income of 20,001 Baht or higher (38.46%), followed by 23 subjects who report to earn between 10,000-15,000 Baht (29.49%), and 18 respondents in this study are identified as receiving their monthly income between 15,001-20,000 Bath (23.08%). Last but not least, with reference to the factor concerning the duration of government service, it is pointed out that there are 42 of those who have been in service for 1-10 years (53.85%), followed by 28 respondents who have worked between 11-20 years (35.90%), and lastly, 8 respondents who have been in service for 21-30 years (10.26%).

Official's Perspectives on e-Procurement

The state official's perspectives towards the e-Procurement purchasing method, overall, are ranked as high ($\mu=3.62$, $\sigma=0.61$) and upon individual factor analysis, it is discovered that e-Procurement Implementation is rated with the highest average mean ($\mu=3.70$, $\sigma=0.71$), followed by e-Procurement Process ($\mu=3.62$, $\sigma=0.67$), with Knowledge and Understanding of State Personnel towards e-Procurement of $\mu=3.60$, $\sigma=0.75$. Upon assessing individual factors, it is revealed that e-Procurement Implementation is generally placed as high ($\mu=3.70$, $\sigma=0.71$). Moreover, when examining each aspect individually, the results demonstrate that the e-Procurement Implementation that lowers the capital investment regarding the commuting expenses between the sellers and the service providers as well as decreasing relevant documentary cost contains the highest average mean ($\mu=3.77$, $\sigma=0.72$), followed by an aspect of accurate implementation and achieving work goals ($\mu=3.72$, $\sigma=0.74$), and the implementation which facilitates and allows the procurement purchasing to be of quality and reasonable price ($\mu=3.69$, $\sigma=0.84$).

In addition, with respect to the e-Procurement Process, the overall level of opinions are rated as high ($\mu=3.62$, $\sigma=0.67$). Upon individual factor evaluation, it is discovered that the perspective about e-Auction requiring e-Marketplace contains the highest average mean ($\mu=3.68$, $\sigma=0.71$), followed by a view of e-Marketplace providing necessary trainings vis-à-vis e-Auction process, the procedure being swift, convenient, and more effective ($\mu=3.64$, $\sigma=0.76$), and lastly, the speedy Log-in process for the electronic procurement purchasing system ($\mu=3.60$, $\sigma=0.71$).

What is more, when examining the level of opinions perceived by the state officials towards the factor of e-Procurement Communication, the overall level of opinion is placed as low ($\mu=3.54$, $\sigma=0.77$). As assessing different aspects individually, the results reveal that prevention of non-standard purchasing of the concerned goods and services contains the highest average mean ($\mu=3.72$, $\sigma=0.79$), followed by the aspect that computers are adequate for the operations ($\mu=3.64$, $\sigma=0.99$), and e-Auction requiring e-Marketplaces leading to the government purchasing product in higher price with no actual benefit ($\mu=3.60$, $\sigma=0.84$).

Additionally, upon reviewing the factor regarding the personnel's understandings of the e-Procurement purchasing system, the overall level opinion is ranked as high ($\mu=3.60$, $\sigma=0.75$).

When accessing each factor individually, the findings show that having the knowledge and ability to resolve possible problems arising out of the electronic procurement purchasing process is marked at $\mu=3.72$, $\sigma=0.84$, followed by the factor of containing restricted resources of procurement personnel ($\mu=3.72$, $\sigma=0.90$), and having skills and expertise of the computer programme and the electronic procurement method is ranked at the lowest ($\mu=3.65$, $\sigma=0.79$).

Analytic Comparison on Personal Factors and Views Perceived by State Officials towards e-Procurement

Table 1 Comparison of personal factors and state official's perspectives towards e-procurement, Budget Division, Office of Budget and Finance, Royal Thai Police based and categorised on sex

Official's Perspectives on e-Procurement	Male		Female		t	sig
	μ	σ	μ	σ		
Implementation of e-Procurement	3.75	0.77	3.69	0.70	.25	.803
Process of e-Procurement	3.70	0.73	3.60	0.66	.46	.647
E-Procurement Communications	3.53	1.02	3.55	0.73	.05	.961
Knowledge and Understanding of State Personnel towards e-Procurement	3.55	0.73	3.78	1.01	.90	.370
Total	3.69	0.74	3.60	0.59	.46	.648

According to Table 1, when considering the sex factor, it is discovered that, overall, the findings bear no difference. Upon reviewing each factor individually, the results show no difference also.

Table 2 Comparison of state official's perspectives towards e-procurement, Budget Division, Office of Budget and Finance, Royal Thai Police based and categorised on age

Official's Perspectives on e-Procurement	18-30 Yr		31-40 Yr		41+ Yr		F	Sig
	μ	σ	μ	σ	μ	σ		
Implementation of e-Procurement	3.71	0.54	4.05	0.76	3.41	0.64	6.78	.002*
E-Procurement Process	3.66	0.58	3.86	0.78	3.39	0.56	3.83	.026*
E-Procurement Communications	3.50	0.64	3.78	0.92	3.38	0.70	1.96	.147
Knowledge and Understanding of State Personnel towards e-Procurement	3.49	0.53	3.82	0.87	3.49	0.75	1.70	.190
Total	3.59	0.53	3.88	0.74	3.42	0.47	4.40	.016*

* $p < .05$

From Table 2, upon assessing the age factor, the results reveal that the level of opinions contain the statistical significance of .05. When looking into each aspects separately, it is discovered that the implementation of e-Procurement along with the e-Procurement process hold a statistically significant difference of .05. Moreover, when examining using the LSD method to determine the difference of average means, it is found that state officials with different ages perceive different views with regards to e-Procurement with the statistical significance of 0.05. For those who are aged between 31-40 years old, their opinions on e-Procurement purchasing system are placed at higher level than those who are aged 41 years old and higher. Amongst the government officials across other different age groups, there is no significant difference observed.

Table 3 Comparison of state official's perspectives towards e-procurement, Budget Division, Office of Budget and Finance, Royal Thai Police based and categorised on title rankings

Official's Perspectives on e-Procurement	Pol.L/C.- Pol.Sen.Sgt.Maj.		Pol.Sub.Lt.- Pol.Capt.		Pol.Maj.- Pol.Col.		F	Sig
	μ	σ	μ	σ	μ	σ		
	Implementation of e-Procurement	3.61	0.58	4.08	0.82	3.57		
E-Procurement Process	3.52	0.53	3.96	0.82	3.51	0.65	3.15	.049*
E-Procurement Communications	3.35	0.76	3.87	0.85	3.55	0.69	2.65	.078
Knowledge and Understanding of State Personnel towards e-Procurement	3.45	0.72	3.77	0.96	3.66	0.64	1.16	.319
Total	3.48	0.54	3.92	0.82	3.57	0.48	3.14	.049*

*p<.05

According to Table 3, when examining the factor of police title rankings, the results reveal the statistical significance of .05. When looking into each aspects individually, it is discovered that the implementation of e-Procurement together with the e-Procurement process manifest a statistically significant difference of .05. Furthermore, when assessing through the LSD system in order to determine the difference of average means, it is found that government officials who are positioned at different rankings perceive different views with regards to e-Procurement with the statistical significance of 0.05. That is to say, the officials who rank between Pol.L/C. and Pol.Sen.Sgt.Maj. perceive higher level of opinions towards e-Procurement than those whose titles are Pol.Maj. and above. Amongst the government officials across other different title rankings, there is no significant difference displayed.

Table 4 Comparison of state official's perspectives towards e-procurement, Budget Division, Office of Budget and Finance, Royal Thai Police based and categorised on marital status

Official's Perspectives on e-Procurement	Single		Married		t	Sig
	μ	σ	μ	σ		
Implementation of e-Procurement	3.82	0.69	3.55	0.71	1.73	.088
E-Procurement Process	3.74	0.64	3.46	0.68	1.81	.075
E-Procurement Communications	3.59	0.82	3.49	0.72	0.55	.582
Knowledge and Understanding of State Personnel towards e-Procurement	3.60	0.78	3.61	0.73		.973
Total	3.69	0.62	3.53	0.60	1.14	.256

According to Table 4, upon considering the marital status, it is discovered that, overall, the findings display no difference. Upon reviewing each factor individually, the results also show no difference.

Table 5 Comparison of state official's perspectives towards e-procurement, Budget Division, Office of Budget and Finance, Royal Thai Police based and categorised on education background

Official's Perspectives on e-Procurement	BA and Higher		BA		t	Sig
	μ	σ	μ	σ		
Implementation of e-Procurement	3.75	0.65	3.68	0.74	.44	.661
E-Procurement Process	3.62	0.62	3.62	0.70	.03	.973
E-Procurement Communications	3.48	0.83	3.58	0.75	.55	.582
Knowledge and Understanding of State Personnel towards e-Procurement	3.59	0.75	3.61	0.77	.08	.933
Total	3.61	0.56	3.62	0.64	0.06	.949

Following Table 5, when considering the factor regarding education background, it is revealed that, in general, the findings show no difference. Upon reviewing each factor individually, the results also display no difference.

Table 6 Comparison of state official's perspectives towards e-procurement, Budget Division, Office of Budget and Finance, Royal Thai Police based and categorised on monthly income

Official's Perspectives on e-Procurement	Lower than 10,000 THB		10,000-15,000 THB		15,001-20,000 THB		Higher than 20,000THB		F	Sig
	μ	σ	μ	σ	μ	σ	μ	σ		
Implementation of e-Procurement	3.37	0.66	3.69	0.58	4.17	0.80	3.51	0.64	4.30	.007**
E-Procurement Process	3.23	0.41	3.56	0.57	4.08	0.82	3.48	0.57	4.72	.005**
E-Procurement Communications	2.94	0.60	3.46	0.60	4.13	0.77	3.39	0.75	6.50	.001**
Knowledge and Understanding of State Personnel towards e-Procurement	3.20	0.87	3.40	0.59	4.02	0.78	3.60	0.74	3.36	.023*
Total	3.19	0.47	3.53	0.46	4.10	0.76	3.50	0.49	6.63	.000**

**p<.01, *p<.05

Following the results shown in Table 6, upon considering the factor concerning monthly income, the results reveal that the level of opinions contain the statistical significance of .05. When examining each factors separately, it is discovered that the e-Procurement process together with the implementation of the e-Procurement contain a statistically significant difference of .01. Plus, there is a statistical significance at .05 when assessing the personnel's understandings towards the e-Procurement system. Accordingly, when testing with the LSD method to determine the difference of average means, it is found that state officials with different title rankings perceive different views with regards to e-Procurement with the statistical significance of 0.05. That is to say:

- The group whose monthly income do not exceed 10,000 Baht holds a lower level of opinions on e-Procurement than those with a monthly income between 15,001-20,000 Baht.

- Government officials who earn between 10,000-15,000 Baht monthly perceive lower level of opinions of e-Procurement than the group whose monthly income lies between 15,001-20,000 Baht.

- Government officials whose income range between 15,001-20,000 Baht contain lower level of opinion towards the e-Procurement system than those with 20,001 Baht monthly income and higher. Last but not least, amongst the government officials across other different monthly income groups, there is no significant difference observed.

Table 7 Comparison of state official's perspectives towards e-procurement, Budget Division, Office of Budget and Finance, Royal Thai Police based and categorised on duration of government service

Official's Perspectives on e-Procurement	1-10 Yr		11-20 Yr		21-30 Yr		F	Sig
	μ	σ	μ	σ	μ	σ		
Implementation of e-Procurement	3.89	0.68	3.56	0.71	3.23	0.56	4.22	.018*
E-Procurement Process	3.77	0.67	3.50	0.70	3.25	0.28	2.81	.066
E-Procurement Communications	3.68	0.80	3.29	0.70	3.73	0.72	2.39	.099
Knowledge and Understanding of State Personnel towards e-Procurement	3.66	0.79	3.46	0.77	3.83	0.47	0.98	.381
Total	3.75	0.66	3.45	0.56	3.51	0.35	2.17	.122

*p<.05

According to Table 7, upon considering the duration of government service, it is discovered that, overall, the findings bear no difference. Upon reviewing each factor individually, it reveals that with reference to e-Procurement process, the results contain a statistical significance at .05.

Summary

The overall level of opinions of the state officials with regards to the e-Procurement system is placed as high and when examining individual aspects, it is found that the levels of opinions with regards to the e-Procurement Implementation, the e-Procurement Process, together with the personnel's understandings towards e-Procurement, are generally valued as high. On the contrary, with respect to the level of opinions concerning e-Procurement Communication, overall, it is ranked as low.

A comparative study on personal factors that affects the state official's perspectives towards the e-Procurement purchasing system reveals that, in general, when categorised by sex, marital status, education background, and the duration of government service, overall, the results display no significant difference. Upon looking into factors of age, police title rankings, and monthly income, the findings, nonetheless, reveal that there is a statistical significance of .05.

Dicussion

With respect to the factor concerning e-Procurement process, the overall level opinion is ranked as high. Upon looking into each factor individually, it is discovered that the opinion on e-Auction requiring electronic market place comes with the highest average mean. Furthermore, it is found that the process and the implementation of e-Procurement through computer allow and lead to swift processing time. As for other procedures such as the

inspection on the sellers' qualifications, approving, contracting procedures, for example, the processing time of this is consistent with the one prescribed in the 2013 research conducted by Ura Wongprasongchai, Suwaree Wongwattana, and Pongluk Jittakarun on the Problems and Recommendation procurement management, Naresuan University, in which it is revealed that there are 2 problems that contain the highest average means, namely, an issue of having too many rules and complicated protocols and steps upon the e-Procurement process. Such findings are also consistent with the 1998 work carried out by Kanokrat Klaitongkum on Problems and Solutions on Procurement Management Burapha University, in which the research findings indicate that there were too many protocols and rules with respect to the e-Procurement purchasing system that rendered the process in general too complex, resulting in various delays.

When taking the factor of the state official's understandings on e-Procurement system into account, the level of opinion regarding this matter is ranked as high. Upon assessing each factor individually, it is found that the factor of having the ability to solve possible problems which may arise out of the electronic procurement contains the highest average mean. It also reveals that most of the difficulties come from the working of state personnel during the document preparation and other relevant processes concerning the procurement purchasing itself. The most common problematic practice is identified to be procurements that concern price competition, of which the 2015 findings published by Thidarat Buttrarach and Supree Pinijsunthorn from their work on the Guidelines of Inventory Management in Faculty of Engineering, Khon Kaen University reveals that the level of opinions of the state officials with respect to the e-Procurement understandings are placed as moderate. Upon considering each aspect individually, it is revealed that the working procurement staffs of the department of engineering, Khon Kaen University hold a high level of understandings and the ability towards rules and regulations on e-Procurement matters. The staffs also exhibit great comprehension towards electronic procurement purchasing system and can make an effective decisions with regards to related e-Procurement process. Also, it is found that the factor concerning the issue where the procurement personnel can adequately operate and function the electronic procurement tools, as well as being sufficiently trained to be well informed about the matters is ranked as moderate.

Via-a-vis the comparative study on personal factors which affect the state official's perspectives towards e-Procurement system, when going through the categories of sex, marital status, education background, and the duration of government service, overall, it is found that there are no significant difference. This is consistent with the results portrayed in the 2015 study conducted by Monruedee Rattanakun, Thonsuvit Tubhiranyarak, and Sukon Kreunamkam on the factors affecting the effectiveness of the local administration in Nong Khai province, of which it reveals that the comparative study of such matter, as categorised by sex, education background, and the duration of government service, reveals that the working personnel, notwithstanding their differences in sex, education background, or duration of government service, show no significant difference with regards to their procurement management effectiveness.

Last but not least, upon comparative examining on different personal factors that affect the government officials' perspectives towards the e-Procurement system, it discovers that when basing on age, in general, the results reveal to be coherent with the 2015 work carried out by Monruedee Rattanakun, Thonsuvit Tubhiranyarak, and Sukon Kreunamkam, whose work studies the factors affecting the effectiveness of the personnel working under the local administration of Nong Khai province. The research outcome indicates that upon running a comparative analysis through age category, officials with different ages demonstrate a statistical different level of opinions. Whereas with respect to difference of monthly income,

the aforementioned 2015 research points out that the local administrative with different monthly income perceive different level of opinions towards the discussed matter.

Recommendation

Policy Recommendation

1. With respect to e-Procurement process, it is essential that electronic market service providers must be identified and assigned.
2. Regarding the personnel's understandings towards the e-Procurement system, it is advised that a workshop or a seminar should be organised so that it would enable the staffs and personnel working under the Budget division, Office of the Budget and Finance of the Royal Thai Police to become more equipped and ready to carry out or resolve any problems that may rise out of the electronic procurement process.

Further Suggestion for Possible Researches

1. Other relevant factors affecting the uses of e-Procurement system should be taken into account, for instance, factors regarding economic climate that can impact the government budgeting and changes in procurement purchasing policies, in order that a better improved and developed system can be crafted and tailored to best fit the needs of each different government units.
2. There should be a comparative study between other government agencies with regards to the outcome of different electronic procurement methods, including any anticipated problems and difficulties that may arise out of the chosen e-Procurement systems.

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