

The impact of e-Procurement practice in Indonesia government: A Preliminary Study (The case of Electronic Procurement Service at Bekasi District)

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Abstract. In digital economy, government of Indonesia uses the internet to deliver services and to communicate with citizens and organizations. One of applications are e-Procurement and LPSE is a unit to hold the service system of e-Procurement. Procurement of goods and services electronically in addition will increase transparency and accountability, improve market access and healthy competition, as well as improving the efficiency of the procurement process. Based on the background and specific objectives to be achieved, then the research will be viewed from e-Marketplace participation, Trust and its impact on the performance of existing procurement within the institution. Methods of data analysis used in this research is by using analysis of Structural Equation Modelling (SEM) by using the program Partial Least Square (PLS) to examine the relationship between variables. The population used in this study is an enterprise as well as other clients using the system LPSE Bekasi District. There are three part in this study population, namely the provision of a company, customer, and supplier of LPSE users amounted to 60 users. From data analysis, there are one hypothesis that rejected. The implication of this study are implementation of e-procurement and e-marketplace participation giving impact to procurement performance.

1. Introduction

The fast growing of information technology has shifting the business process of supply chain management. Supply chain management with utilizing technology has changed how goods and services are purchased in the public sector. E-procurement is an online system that can streamline the procurement process [1]. In digital economy, government of Indonesia uses the internet to deliver services and to communicate with citizens and organizations. The organization that responsible of that is Layanan Pengadaan Secara Elektronik (LPSE). LPSE is a unit formed across Ministries / Agencies / Others institution to hold the service system of procurement of goods and services electronically and facilitate Procurement in carrying out the procurement of goods and services electronically [2].

Procurement of goods and services electronically in addition will increase transparency and accountability, improve market access and healthy competition, as well as improving the efficiency of the procurement process, of course it will also indirectly support the process of monitoring and auditing, and meet the needs of information access real-time order realizing clean and good government in the procurement of government goods and services. LPSE associated with this process, it is necessary to do an evaluation. Where the evaluation carried out to see the impact that occurred on LPSE implementation of the e-Marketplace and Performance. With the hope the results of this study



can be a material analysis and future development on this LPSE. So with this evaluation, the increase in service will be better, especially for the field of procurement services related section.

With the e-procurement system, then the performance of existing government institutions, especially in the Bekasi district is expected to increase, because orders are created by selecting items that exist in the system that can reduce the likelihood of errors. All tender selection of goods and services the government done online via the Internet so that the process becomes effective, efficient and transparent. It that were outlined will indirectly affect the performance of operational processes that are in these institutions. Good performance, especially in the areas of procurement will support the running of transparency and fair competition among providers of goods and services as well as for government officials, thus reducing the intensity of direct meetings between suppliers of goods and services procurement committee in support of clean government free from corruption. And trust required will also affect the process of implementing e-procurement application in giving effect to the e-marketplace participation therein.

Based on the background and specific objectives to be achieved, then the research will be viewed from participation e-Marketplace, Trust and its impact on the performance of existing procurement within the institution.

2. Literature Review

E-procurement is a procurement process that refers to the use of the Internet as a means of information and communication [3]. Procurement of goods and services with e-procurement systems utilizing the facility of communication and information technology used to support the public tender process electronically. Procurement of goods / services in Indonesia implemented the guidelines of Presidential Decree 80 of 2003 and amendments. In practice, the process of selecting service providers performed using several methods of election / selection, among others: (1) Auction / common selection is a method for the selection of providers of goods / services is done openly with the announcement widely through the media, (2) Auction / limited selection which is a method of selecting providers of goods / services are limited in terms of the number of providers capable of performing believed to limited, (3) Auction / direct selection is the method for selecting the providers of goods / services to compare at a lack of 3 (three) offerings, (4) is a method of direct appointment provider selection criteria for jobs that meet certain conditions and special circumstances, by direct appointment to one (1) service providers.

From the implementation of e-procurement have gained some benefits as described by Ref [4] divides the advantages of e-procurement into 2 of the direct benefits (improve data accuracy, increase efficiency in operations, process applications faster, reduce costs administration and reduce operating costs) and indirect benefits (e-procurement to make procurement more competitive, improve customer services, and improve relationships with partners). Additionally, Ref [5] also added that e-procurement can reduce the supply cost (an average of 1%), reducing Cost per tender (average 20% cost per tender); e-procurement allows the consolidation of resources so that with the electronic network between organizations is believed to improve coordination between the company and reduce costs in the search for goods and services as appropriate.

Reference [5] states that B2B e-marketplace can be seen as a space where shoppers can find new products and services in which the seller can identify new market opportunities and seek new customers, thereby lowering transaction costs for both. The role of e-marketplace is more to matching buyers and sellers. Some of the factors that affect the participation of e-marketplace are: (1) Efficiency in time and cost savings. E-marketplace can give suppliers access to a higher level of decision-making authority in the buying organization; (2) The legitimacy because the organization must justify their actions and conduct in accordance with social norms and institutional expectations; (3) IT capability is required; companies need a good infrastructure for the benefit of market participation. Building a sustainable competitive advantage and increase the participation of company e-market is not easy or cheap. However, the lack of participation may lead a company to be isolated.

The trust has a moderate effect on processes and behaviors [6]. Reference [7] trust as the belief that a company or institution manufacturer's efforts to meet commitments, to be honest, and do not seek to take unfair advantage of the opportunities. Reference [6] proposed four components trust in B2B relationships: competence, benevolence, integrity and predictability, by adopting the same four dimensions, ability, friendliness, safety and predictability.

Basically, a company or institution would require employees as workers improve product and service quality. Given the employee is considered an important part of the company's assets to contribute to the company to obtain a good performance and be able to compete. Based on above explanation, so the research model for this study as seen on Figure 1 [4], [5], [8], [9]

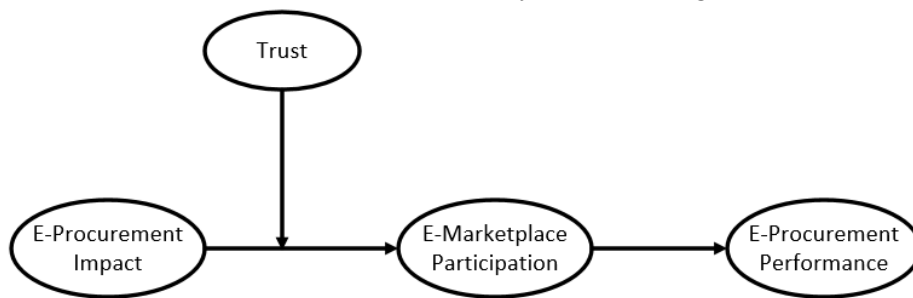


Figure 1. Research Model

3. Research Methods

Researchers decided to use non-probability sampling (non-probability sampling). Techniques used the purposive sampling technique, where the sample selection was based on certain characteristics, which have nothing to do with the relationship characteristics of the population who have previously been known. The population used in this study is an enterprise as well as other clients using the system LPSE Bekasi District. There are three part in this study population, namely the provision of a company, customer, and supplier of LPSE users amounted to 60 users.

Methods of data analysis used in this research is by using analysis of Structural Equation Modeling (SEM) by using the program Partial Least Square (PLS) to examine the relationship between variables. PLS evaluation model based on measurement predictions that have the nature of non-parametric. Then, under certain conditions, PLS working with a relatively small sample size [10].

4. Research Findings

The data is gather by using printed questionnaire in Bahasa. Within one month, all the data can be done and from 60 questionnaires that distributed, only 48 questionnaires that can be using for analysis. Rest of questionnaires are not filled completely by the respondents. In this study, only 80% from total of respondents and this level of response still can be tolerating for analysis the study [11].

As seen Figure 2, most of respondents are coming from suppliers. There are 22 suppliers, 15 customers and the rest are coming from e-procurement officers. Based on Figure 3, there are 36 officers that contribute in this study of e-procurement. And the rest of respondents are management level above, where more than 70% are come from Officer level.

Based on data finding, most of respondents already using e-procurement for at least 5 months. In detail of how long user using e-procurement can be seen on Figure 4. Basically, all of respondents have been using e-procurement for almost 2 months.

First, the test model fit with 3 index test is Average Path Coefficient (APC) with a P-value of <0.05, Average R-Squared (ARS) with a P-value of <0.05, and Average Variance Inflation Factor (AVIF) is greater than 5. and the results show APC at $P < 0.001$, ARS with $P < 0.001$, and AVIF with a value of 1.807 indicates that all three of these criteria are eligible, which means that the model was fit to the data and models can be used.

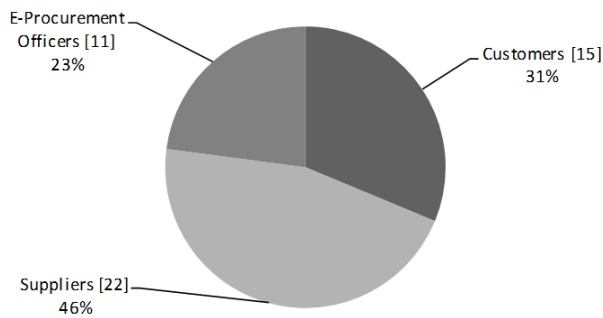


Figure 2. E-Procurement Respondents

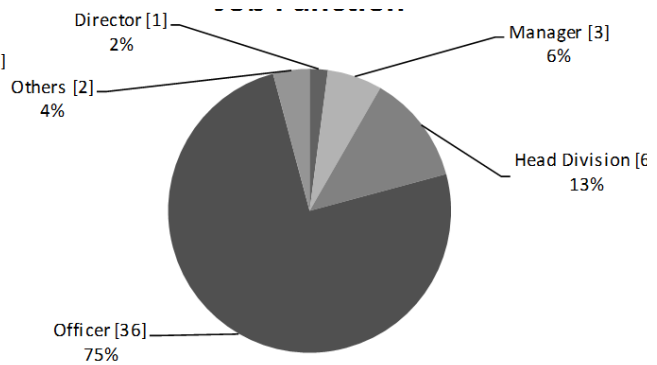


Figure 3. Job Function of Respondents

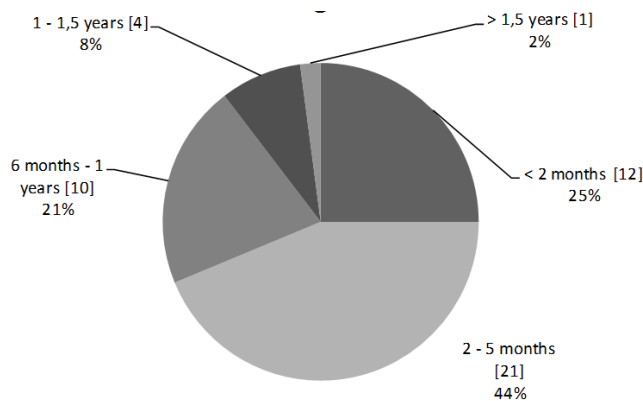


Figure 4. Time using e-Procurement

Further testing the hypothesis on the path coefficients to evaluate the structural relationships between latent variables by comparing the p-value with the alpha (0.05). Figures obtained from the p-value output where the result is significant if less than 0.05. Based on Table 1, result was obtained that result from H1 that has received the results of which means that the variable implementation of e-procurement in local government LPSE Bekasi have a significant impact on the e-marketplace participation variable, with a beta coefficient is positive value of 0.84, which means the better implementation of e-procurement in the Bekasi local government LPSE user participation in the e-marketplace will also increase.

The results of H2 which has rejected the results of which means that the variable trust has no significant effect on the implementation of e-procurement and e-marketplace participation (as a moderator variable), with a beta coefficient is negative at -0.17. Results of H3 which has received significant results e-marketplace participation variables have a significant effect on the performance of the procurement, the value of which is positive beta coefficient of 0.96, which means more and better user participation (participating in the e-marketplace) in the Local Government LPSE Bekasi then the performance will increase procurement. And can be seen with R² values of 0.918 means that the e-marketplace participation variables affect performance variables LPSE local government procurement in Bekasi by 91.8% and 8.2% were influenced by other variables outside of this study.

5. Conclusions

Based on the research that has been done, it can be concluded that the implementation of e-procurement in LPSE Bekasi has positive and significant impact on the participation of the e-marketplace. It is shown from the beta coefficient is positive, which means that the better the quality

of the application or implementation of e-procurement, the greater the participation or the participation of users (users) in the e-marketplace.

The existence of these effects can be caused because indirectly, the use of e-procurement in meeting the needs of users will have an impact on the efficiency of user participation in the e-marketplace. As in previous studies, the results of research conducted by [8] showed that the implementation of e-procurement positive effect on the participation of the e-marketplace, where companies or institutions that implement e-procurement implementation so has the role of contributing both to the participation of e -marketplace. If seen again based on the processing of data, indicators such as time and cost efficiency greatly affect the conformance process of e-procurement itself. Meanwhile, other indicators such as ease in obtaining the information, reduces errors, and makes the data unified, have a higher loading values than others. This suggests that these indicators contribute more in the implementation of e-procurement.

Table 1. Result of Hypothesis

No	the influence between		Beta	R ²	P-value	Result
H1	e-Procurement Implementation	e-Marketplace participation	0.84	0.79	<0.001	Accepted
H2	Trust	e-Procurement Implementation and e-Marketplace participation	-0.17	0.109	0.179	Rejected
H3	e-Marketplace participation	Procurement Performance	0.96	0.918	<0.001	Accepted

Then based on the results R² is also known that 79% of e-marketplace participation variable is affected by the implementation of e-procurement. So we can conclude that most of the e-marketplace participants obtained based e-procurement (LPSE) is applied to the Bekasi District. So it has been important for the manager of the e-procurement or LPSE to continue to pay attention to and improve the quality of service provision (LPSE), especially for attributes that contribute more to the implementation of e-procurement in order to attract more participants e-marketplace and meet the needs of the user.

Trust as moderator variable does not have a significant effect on the implementation of e-procurement and e-marketplace participation. These results differ from previous studies in which the trust has a fundamental role in affecting the implementation of e-procurement and e-marketplace participation. Based on average scores on the indicators of trust, it is known that the smallest average is an indicator of the e-marketplace is an honest transaction space. This may imply that the user (user) e-procurement have not felt completely trust the e-marketplace as a reliable transaction space.

Reference [6] on research predecessor argued that the trust has a moderate effect on processes and behaviors, whereas Ref [8] in his research found trust is a measure that affects the willingness of a company or institution to participate in the e-marketplace and using e-procurement. In accordance with this theory, it can be concluded that the user (user) e-procurement are participating in the e-marketplace in LPSE District Bekasi not making full use of confidence (trust) as the main reason or reasons of their fundamental when conducting transactions, so there is no effect on the implementation of e-procurement and e-marketplace participation.

e-Marketplace participation in LPSE Bekasi District has a positive and significant impact on the performance of the procurement. It is shown from the beta coefficient is positive, which means that the better the quality of the e-marketplace participation, it will be better the quality of existing performance. The existence of these effects can be caused by indirect, users who participate in the e-marketplace will have an impact on the performance of the procurement part LPSE Bekasi District Government, the more users that participate LPSE then the performance will also be improved.

Performance here mainly include things like customer satisfaction and relationship development with partners and supplier's increases. It is also indicated as such on previous research, the results of research conducted by Ref [8] shows that the participation of e-marketplace positive effect on the performance of the procurement, where the company or institution that participates in the e-marketplace so has the role of contributing both to procurement performance itself. If seen again by the processing of the data, the respondents gave high scores on indicators such as production and transaction costs that can be reduced after participating in the e-marketplace.

Meanwhile, other indicators such as customers who are more satisfied with the performance of the procurement LPSE Bekasi district after participating in the e-marketplace and business relationships with partners are improving after participating in the e-marketplace, has a higher loading than others. This suggests that these indicators contribute to greater participation in the relationship e-marketplace will be the performance of the procurement. Then based on the results R^2 well known that amounted to 91.8% variable procurement performance is influenced by the participation of the e-marketplace. It can be concluded that the majority of user participation in the e-marketplace impact on the performance of the procurement (LPSE) at Bekasi District Government.

So it has been important for providers of e-marketplace to continue to develop the quality of service provision (LPSE), especially for attributes that contribute more to the participation of the e-marketplace in order to continuously improve procurement performance in LPSE Government of Bekasi District and a growing number of companies participating in the e-marketplace as well as the use of electronic procurement services.

References

- [1] Rotchanakitumnuai S 2013 The governance evidence of e-government procurement *Transforming Government: People, Process and Policy* **7** no. 3 pp 309–321
- [2] LKPP 2012 LKPP - Lembaga Kebijakan Pengadaan Barang Jasa Pemerintah [Online] Available: <http://www.lkpp.go.id/v3/#/profil>. [Accessed: 12-Mar-2016]
- [3] Brandon-Jones A and Silvestro R 2010 Measuring internal service quality: comparing the gap-based and perceptions-only approaches *International Journal of Operations & Production Management* **30** no. 12 pp 1291–1318
- [4] Teo T S H, Lin S and Lai K 2009 Adopters and non-adopters of e-procurement in Singapore: An empirical study *Omega* **37** no. 5 pp 972–987
- [5] Panayiotou N A, Gayialis S P and Tatsiopoulou I P 2004 An e-procurement system for governmental purchasing *International Journal of Production Economics* **90** no. 1 pp 79–102
- [6] McKnight D H and Chervany N L, 2001 What Trust Means in E-Commerce Customer Relationships: An Interdisciplinary Conceptual Typology *Int. J. Electron. Commerce* **6** no. 2, pp. 35–59, Dec. 2001.
- [7] Quigley N R, Tesluk P E, Locke E A and Bartol K M 2007 A Multilevel Investigation of the Motivational Mechanisms Underlying Knowledge Sharing and Performance *Organization Science* **18** no. 1 pp 71–88
- [8] Chang H H and Wong K H 2010 Adoption of e-procurement and participation of e-marketplace on firm performance: Trust as a moderator *Information & Management* **47** no. 5–6 pp 262–270
- [9] Quesada G, González M E, Mueller J and Mueller R 2010 Impact of e-procurement on procurement practices and performance *Benchmarking: An International Journal* **17** no. 4 pp 516–538
- [10] Candra S 2014 The impact of enterprise resource planning success in Indonesia company *Advanced Science Letters* **20** no. 1 pp 184–187
- [11] Candra S 2014 The Role of Knowledge Capability On Enterprise Resource Planning Success *Unpublished Dissertation* Bina Nusantara University, Jakarta - Indonesia