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EFFECTIVENESS OF GOVERNMENT'S ELECTRONIC PROCUREMENT OF GOODS AND SERVICES IN ITS ROLE WITHIN THE GOVERNMENT'S PROJECTS

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ABSTRACT

The government's goods and services procurement are the major part in the state budget realization for its impact on performance of government's departments. Considering the growing number of goods and services procurements, the government rules to set the procurement of goods and services electronically. This helps the government to run the state budget realization that is good in timekeeping, efficiency and accountability during procurement process. The effectiveness of electronic procurement of goods and services (e-procurement) of the government is strongly related to the government's projects. This is presented in this study using a descriptive quantitative method on processed data output from SPSS v.23. The data was sourced from recorded government's project in LKPP in 2019. The result shows good effectiveness level at 65,9% with supporting strong correlation value at 0,812 following consummated budget at 95,71%. Based on those statistics, this paper suggests that the run of government's projects automatically would induce a consummated budget in which targets would be achieved and provide more benefits. Therefore, a good run of government's projects needs better effectiveness of the government's e-procurement of goods and services.

Keywords: *effectiveness, electronic procurement, government's projects, consummated budget.*

1. INTRODUCTION

Growing development in Indonesia follows an increasing budget by the government billed from its state budget (APBN), from Rp. 2.133,3 Trilion in 2017 became Rp. 2.220,65 Trilion in 2018 and later became Rp. 2.461,1 Trilion in 2019 (Sourced: Realization Reports of APBN by Finance Ministry from 2017, 2018 and 2019). Appropriate handlings are required from planning phase, selection, execution to project hand-over phase. Keeping up with information technology rapid updates and the high attitude to run the procurement process which carries effective, efficient,

transparent, open, competitive, fair and accountable principles then, there is a need of transformation on procurement process from manual tendering system into electronics procurement.

By description, manual tender is a tendering process that requires all printed bidding documents to be bound with cover paper. The government procurement is manually specified in Keppres (presidential decree) no. 80 of 2003. Whereas the electronic procurement of goods and services (e-procurement or e-proc) is an information and technology management service facilitating the procurement electronically. The government's electronics procurements are regulated in presidential regulation no. 16 of 2018 through Government Procurement Institution (LKPP). The later regulation was released to ease the procurement process electronically and expected to add transparency and accountability values, provide more market access, more competitiveness, more efficiency during procurement process, more support during monitoring, auditing and facilitate the needs of real time information demand in order to create the image of clean and good governance from the government procurement of goods services.

E-procurement of goods and services can facilitate tender and purchase electronically (e-tendering and e-purchasing) through online catalogues.

The government's e-procurement of goods and services has been implemented in ministries, institutions and local governments in Indonesia. The parties involved in the procurement process are the budget users (PA), proxies of budget user (KPA), commitment-making officer (PPK), procurement officers, selection team, procurement agencies, procurement result examination officers (PPHP), self-management organizers and providers (Sourced: Presidential Decree no.16 of 2018 clause 8).

The Government procurement of goods and services is one major recipient in the state budget realization that has impacts in performance of government departments. Considering the growing number of electronic procurement of goods and services, the government has put the e-proc system to assist realization of state expenditures that needs punctuality, efficiency and accountability in the procurement process.

The fact that e-proc has been implemented is accessible through Government Procurement Institution (LKPP) in which it has consummated the state budget has reached 90%.

2. EFFECTIVENESS

The word "effectiveness" is originated from an adjective phrase "effective, meaning effect, influence, impact that creates an outcome. Effectiveness is activeness, usefulness, the presence of suitability in an activity of the person performing the task with the intended goal (sourced: Jurnal Efektivitas Pengadaan Barang Dan Jasa Secara Elektronik (E-Procurement) Pada Lpse Kota Pekanbaru, by: Utari Swadesi, October 2017). Sadad (2014:41) suggested that effectiveness concept is a broad concept that includes various factors and it depends on a relative point of view. In general, effectiveness is associated with various ways of achieving goals, both in terms of process and period. Whereas effective as a procurement terminology shall follow the set needs and targets and provide the most benefit as stipulated in Presidential Decree no.16 of 2016, clause 6.

3. QUESTIONS IN QUESTIONNAIRE

Questions set in the questionnaire are based on a journal: Analysis of Implementation Factors in Electronics Procurement of Goods and Services Over the Consummated Budget in Sabang City by Sawidar, Muttaqin, Anita Rauzana, 2018, Universitas Syah Kuala, Banda Aceh.

Effectiveness Variables (X)

1. Laws and regulations governing procurement are published online;
2. Policies, process and guidance of procurement are published online;
3. All electronic procurement (e-procurement) phases are according to Presidential Regulation no.16 of 2018
4. For fast-track type of tendering (e-tendering), the process can directly start with submitting the price bids without qualification evaluation, administration, technical and disclaimer appeals;
5. The period require for electronic procurement is shorter than that of manual procurement. manual tender is a tendering process that requires all printed bidding documents to be bound with cover paper;
6. Manuals for the applications are downloadable from LPSE application;
7. Application features are informative;
8. Activities during procurement process are time recorded;
9. The relay of information from procurement team to providers and vice versa is real time;
10. Aanwijzing (early briefing before the job started) phase is online and effectively covers questions related to the procurement;
11. The procurement plans are openly published through the application;
12. Price bidding competition is going tighter;
13. The number of providers increases.

Variables of Government Projects (Y)

1. The available information is useful to help providers to plan, modify and submit bidding documents online;
2. Location is not among issues to access the required information;
3. Aanwijzing is online through the application;
4. Bidding documents evaluation outcome is available through the application
5. The services of LPSE provide solutions to questions about system
6. The procurement is open for all providers as per regulations and procedures;
7. Implementation acceleration on electronic tender (e-tendering) performed by using providers' performance information;
8. The procurement team provides information relevant to contract detail, price and the awarded provider.
9. The procurement team provides the same information to all providers.
10. The relay of information from procurement team to providers and vice versa is real time;
11. The procurement team responds each question directly (without pooling)
12. Services relevant to the system at LPSE are performed quickly and precisely.

4. RESEARCH METHODOLOGY

The research was performed in Jakarta using quantitative descriptive method through determining population and samples, identifying factors related to e-procurement, determining research variables, questionnaire planning, survey with questionnaire, data processing and analysis. Measuring factors of role effectiveness of e-procurement of goods and services in government projects are based on the objectives of the e-procurement as regulated by a presidential regulation no.16 of 2018, viz. to increase transparency and accountability, provide more market access, more competitiveness, more efficiency during procurement process, more support during monitoring, auditing and cover the needs of real time information demand.

The overall methodology is figured in the following flowchart:

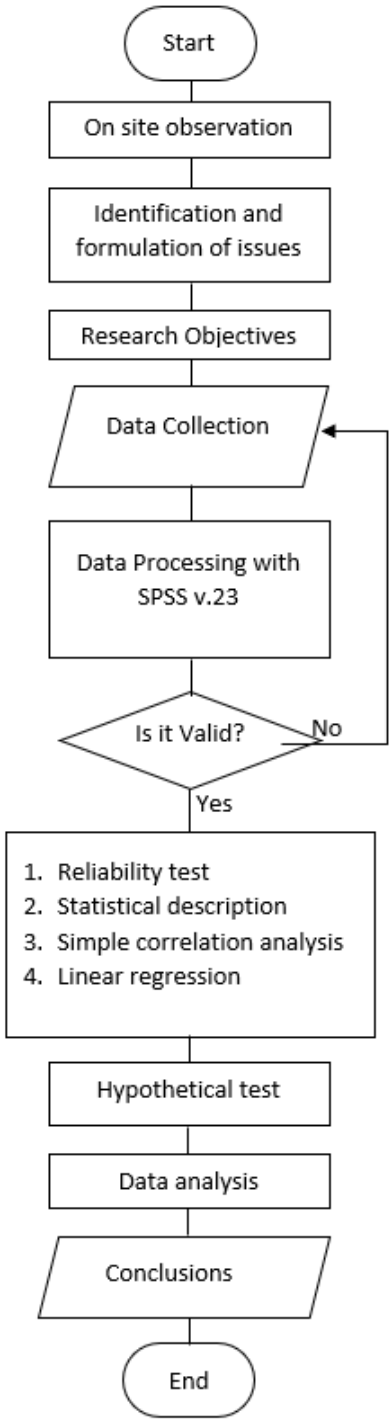

Figure 1. Research methodology flowchart

5. ANALYSIS AND DISCUSSION

This research employs 53 respondents involved in the government procurement of goods and services. The data processing used an SPSS application v.23. Respond measurement applies Likert scale. The scale is commonly used to measure attitude, opinion and perception of a person or a group of people. The respondent data is split into 7 characteristics that are: sex, age, education level, organization, job level and work experience. The questionnaire was distributed to the respondent in which respondents were required to choose one from 5 statements with checklist sign. Those 5 statements are: very influential (SB), influential (B), sufficiently influential (CB) less influential (KB) and not influential (TB).

Consummated budget data

Table 1. Financial report of LKPP 2017 - 2019

#	year	Total budget (Rp)	Realization	
			Rp	%
1	2017	190.203.129.000	168.105.040.558	88,38
2	2018	224.809.272.000	204.834.895.617	91,11
3	2019	243.102.107.000	232.670.388.086	95,71

(Sourced: Financial report of LKPP 2017 - 2019)

Respondent data: sex

Outcome from respondents on sex shows 82,2% from the respondents are male and 15,8% from the respondents are female.

Respondent data: age

Table 2. Respondents' age

#	Age group	Qty	%
1	25 - 35	22	42%
2	36-45	21	40%
3	46-55	10	19%
		53	100%

Respondent data: education level

Table 3. Respondents' education level

#	Education Level	Qty	%
1	High School	5	9%
2	Diplome 3	6	11%
3	Bachelor degree	23	43%
4	Master Degree	19	36%
		53	

Respondent data: work tenure

Tabel 4. Respondents' work tenure

#	Work tenure	Qty	%
1	≤ 5 years	17	32%
2	> 5 years	36	68%
		53	

Respondent data: job position/role function

Tabel 5. Respondents' job position/role function

Procurement professional			
#	Job Position/role	Qty	%
1	Budget user (PA)	0	0%
2	Budget user - proxy (KPA)	1	2%
3	Commitment-making officer (PPK)	10	19%
4	Procurement officer	5	9%
5	Selectional team	10	19%
6	Procurement agency	1	2%
7	Procurement result examination officer (PjPHP)	1	2%
8	Procurement result examination agency (PPHP)	1	2%
9	Self-Management organizer	1	2%
10	Provider	13	25%
Non - Procurement professional			
1	Facilitator of goods & services procurement	9	17%
2	Assessor of goods & services procurement	1	2%
3	Procurement expert professional	0	0%
		53	

Validation test

Validation test here is to validate statements in the questionnaire. The validation test outcome from SPSS v.23 is presented below.

Tabel 6. Validation test outcome

Validation test recap. For X				
var.	r table	r counted	significance	remark
X1	0.266	0.481	0	valid
X2	0.266	0.563	0	valid
X3	0.266	0.399	0.003	valid
X4	0.266	0.471	0	valid
X5	0.266	0.628	0	valid
X6	0.266	0.694	0	valid
X7	0.266	0.625	0	valid
X8	0.266	0.495	0	valid
X9	0.266	0.738	0	valid
X10	0.266	0.580	0	valid
X11	0.266	0.496	0	valid
X12	0.266	0.401	0.003	valid
X13	0.266	0.427	0.001	valid

Validation test recap. For Y				
var.	r table	r counted	significance	remark
Y1	0.266	0.590	0	valid
Y2	0.266	0.595	0	valid
Y3	0.266	0.580	0	valid
Y4	0.266	0.683	0	valid
Y5	0.266	0.819	0	valid
Y6	0.266	0.784	0	valid
Y7	0.266	0.692	0	valid
Y8	0.266	0.870	0	valid
Y9	0.266	0.794	0	valid
Y10	0.266	0.886	0	valid
Y11	0.266	0.515	0	valid
Y12	0.266	0.775	0	valid
Y13	0.266	0.427	0	valid

Validation test recaps above show that r counted is greater than r table at 0.266 which means the recaps are valid for both X and Y variables. The r value at 0.266 refers to table of moment distribution product at significance of 5% and 1% (from 5% column at the 53rd row is the respondents' quantity. The 5% is justified according to research standard).

Reliability test

Reliability test measures the reliability of variables in a questionnaire. According to filling form from the respondents. Below are outcomes from SPSS v.23

Table 7. Reliability test outcome on Variable X

Reliability Statistics	
Cronbach's Alpha	N of Items
,734	14

Conbach's Aplha for variable X = 0,734; which is greater than 0,600. Therefore, variable X is reliable;

Table 8. Reliability test outcome on Variable Y

Reliability Statistics	
Cronbach's Alpha	N of Items
,766	13

Conbach's Aplha for variable Y = 0,766; which is greater than 0,600. Therefore, variable X is reliable;

Factor Analysis test

This test is to measure inter-dependency between variables to find a new variable group with less variable numbers and to show which variables belong to common factor

Tabel 9. KMO and Bartlett's Test outcomes

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin		,607
Bartlett's Test of Sphericity	Approx. Chi-Square	306,106
	df	78
	Sig.	,000

Tabel 10. MSA test outcome

#	Var.	MSA	> 0.5
1	X1	0.503	yes
2	X2	0.546	yes
3	X3	0.595	yes
4	X4	0.718	yes
5	X5	0.567	yes
6	X6	0.825	yes
7	X7	0.715	yes
8	X8	0.554	yes
9	X9	0.675	yes
10	X10	0.566	yes
11	X11	0.604	yes
12	X12	0.412	no
13	X13	0.585	yes

On table 9 above, factor analysis test shows that variable X has KMO value of 0.607 which is greater than 0.5. Significance shows a zero value which is less than 0.05. From the MSA outcome, the outcome shows that there is only one variable (X12) with MSA value less than 0.05. To this point it concludes that there is strong correlation among variables except X12 where factor analysis is not relevant.

Normality test

Normality test is to measure normality level of the questionnaire distribution

Table 11. One Sample Kolmogrov-Smirnov test result

One-Sample Kolmogorov-Smirnov		
		Unstandardized Residual
N		53
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	3,77230738
Most Extreme Differences	Absolute	,089
	Positive	,089
	Negative	-,069
Test Statistic		,089
Asymp. Sig. (2-tailed)		,200[c,d]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true

The value of 0,2 at significance is greater than 0,05 meaning the questionnaire has a normal distribution.

Descriptive Statistics test

This research uses descriptive statistics test to figure research variables. To describe the research variables, this research analyses the mean, standard deviation, minimum and maximum.

Tabel 12. Descriptive statistics test result

Descriptive Statistics

	N	Min.	Max.	Mean	STD Deviation	Variance
Effectiveness	53	47	65	57.4	5.29308	28.017
Government's projects	53	34	60	52.6	6.45797	41.705
Valid N (list wise)	53					

Below are elaborative of descriptive statistics test result:

1. Effectiveness (X) has a minimum value of 47 whereas the maximum value is 65. It has a mean value of 57,4151 and, standard deviation at 5,29308. The mean value is greater than standard deviation which concludes to low data deviation hence it is well distributed.
2. Government's Projects (Y) has a minimum value of 34 whereas the maximum value is 60. It has a mean value of 52,6038 and, standard deviation at 6,45797. The mean value is greater than standard deviation which concludes to low data deviation hence it is well distributed.

Classic Assumption test

The test is to measure the data accuracy. The test has three types.

1. Multicollinearity test
2. Autocorrelation test
3. Heteroscedastic test

Multicollinearity test

Multicollinearity measures the regression whether correlation is identified between independent variables

Table 13. Multicollinearity test result

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig	Collinearity Statistics	
	B	Std Error	Beta			Tolerance	VIF
1 (Constant)	-4.254	5.754		-0.739	0.463		
Effectiveness	0.99	0.1	0.812	9.923	0	1	1

a. Dependent Variable: Government's Projects

The outcome table shows tolerance of 1, greater than 0,1; Whereas VIF value of 1 is less than 10. This concludes that there is no multicollinearity.

Autocorrelation test.

The use of autocorrelation here is to identify

A correlation within a linear regression model between a distorting error in period t and period t-1.

This research uses Durbin Watson (DW) test to carry out the autocorrelation test.

Table 14. Autocorrelation test result

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,812[a]	0,659	0,652	3,809	2,116

a. Predictors: (Constant Effectiveness

b. Dependent Variable: I Government's Projects

Table 15. Autocorrelation ANOVA test result

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1428,703	1	1428,703	98,468	,000[b]
	Residual	739,976	51	14,509		
	Total	2168,679	52			

a. Dependent Variable: P Government's Project

b. Predictors: (Constant), Effectiveness

A value of du is obtained from value distribution of Durbin Watson based on k (1): at df table, N (53) with 5% significance. A value of du (1,5951) is obtained from Durbin Watson table with significance 5%.

Hence from 1,5951 < 2,116 < 4 - du = 2,4049, the test concludes that autocorrelation is not identified.

Heteroscedastic test

Heteroscedastic test determines whether in a regression model there is an inequality of variance from the residuals between one observation to another. A good regression is a regression that is in a homoscedasticity position and not a heteroscedasticity condition.

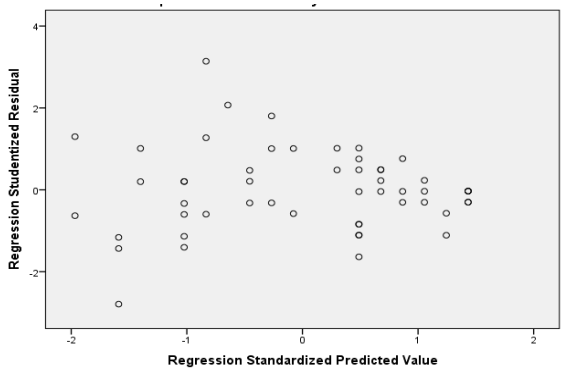

Figure 2. Scatterplot for Government's Project as independent variable

In the scatterplot above, the distribution of observer points above and or below zero on the Y axis leads to an unclear pattern. Hence, there is no heteroscedasticity

ANOVA test

The ANOVA test aims to distinguish the mean of more than two data groups by comparing their variances.

Table 16. ANOVA test result

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1428,703	1	1428,703	98,468	,000[b]
	Residual	739,976	51	14,509		
	Total	2168,679	52			

a. Dependent Variable: Government's Project
b. Predictors: (Constant), Effectiveness

Based on ANOVA table above, obtaine Significancy (sig) 0 < 0,05. Hence the means are different.

Simple linear regression

Simple linear regression is used to determine the effect of variable X on variable Y.

Table 17. Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig	Collinearity Statistics	
	B	Std Error	Beta			Tolerance	VIF
1 (Constant)	-4.254	5.754		-0.739	0.463		
Effectiveness	0.99	0.1	0.812	9.923	0	1	1

a. Dependent Variable: Government's Projects

Using equation Y = a + bX, where;

Y = Variable Response (Dependent)

X = Variable Predictor (Independent)

a = constant,

b = regression coefficient (gradient);

Then obtained:

a= -4,254

b= 0,990

Y= -4,254 + 0,990X

Hypothesis test

Hypothesis test is to determine whether the regression coefficient is significant or not.

Based on the output above, it is known that the significance value (Sig.) of = 0.000 is smaller than probability 0.05. Hence, this test concludes that H_0 is rejected and Ha is accepted. This means that "There is an Effect of Procurement Effectiveness (X) on Government Projects (Y)

Hypothesis test by comparing "t counted" versus "t table" obtains:

t counted (9.923) > t table (2.00758); hence, there is an effect of variable X on variable Y.

Through the use of simple correlation analysis, the relationship between variable X to variable Y is determined.

Table 18. Correlations

Correlations

		Efektivitas	Proyek Pemerintah
Efektivitas	Pearson Correlation	1	.812**
	Sig. (2-tailed)		,000
	N	53	53
Proyek Pemerintah	Pearson Correlation	.812**	1
	Sig. (2-tailed)	,000	
	N	53	53

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

Significance (0.00) < 0.05, correlated; then the effect of variable X on variable Y; person correlation value = 0.812. This shows that there is a very strong relationship between X variable and Y variable.

Determinant coefficient test determines effect of an independent variable variance on a dependent variable.

Tabel 19. Model Summary

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,812[a]	0,659	0,652	3,809	2,116

a. Predictors: (Constant) Effectiveness
b. Dependent Variable: F Government's Projects

Model summary table above shows R Square value is 0.659. This value means:

1. Variable (X) the effectiveness of e-procurement affects the variable (Y) government's projects by 0.659 or 65.9%. whereas 34.1% of Government's projects is influenced by other variables not specified in this research;

2. R Square (0.659) is positive. This indicates that it has a positive influence which means that increasing effectiveness of electronic procurement will affect the realization of government's projects.

Variables relation level

This research uses guidelines for providing correlation coefficient interpretation or how much influence an independent variable has on a dependent variable; proposed by Sugiyono (2013: 250). The paper describes the guideline into a correlation coefficient interpretation table below:

Tabel 20. Correlation Coefficient Interpretation guideline

Interval Coeff.	Level of relation
0 - 0.199	Very Weak
0.2 - 0.399	Weak
0.4 - 0.599	Intermediate
0.6 - 0.799	Strong
0.8 - 1	Very Strong

From the validation test as described at table 6, the obtained r counted on variables X are: X1: 0,481; X2: 0,563; X3: 0,399; X4: 0,41; X5: 0,628; X6: 0,694; X7: 0,625; X8: 0,495; X9: 0,738; X10: 0,580; X11: 0,401; X12: 0,41; X13: 0,427

Those values above are then correlated with outcomes at table 17 Correlation Coefficient Interpretation guideline, as follow:

a. Strong relation (0,6 – 0,799) are variables: X5, X6, X7, X9;
b. Intermediate relation (0,40 – 0,599) are variables: X1, X2, X4, X8, X10, X11, X12, X13;
c. Weak relation (0,20 – 0,399) are variable: X3

Following is an elaborated explanation for variables with strong relation:

a. X5: The required period in e-procurement is less than that of in manual tender. Manual tender is a tendering process that requires all printed bidding documents to be bound with cover paper.
b. X6: Manual modules about how to use the application are available for download from LPSE application;

c. X7: Informative application features;
d. X9: The relay of information from procurement team to providers and vice versa is real time.

6. DISCUSSION SUMMARIES FROM FOUR PROCUREMENT EXPERTS

Statement (X5): The required period in e-procurement is less than that of in manual tender.

Summary:

This is in accordance with one of the objectives of electronic procurement, that is to improve efficiency level of procurement process in which the e-procurement can save operational costs, be executed anywhere because it is online, also reduce fraud possibilities through minimizing direct contact between providers and the selection team (Pokja).

Statement (X6): Manual modules about how to use the application are available for download from LPSE application

Summary:

The statement follows one of the objectives of electronic procurement, that is to improve procurement's efficiency in terms of supplying real time information access that provides transparency and ease to procurement professionals within procurement process.

Statement (X7): Informative application features.

Summary:

The statement conforms with one of the objectives of electronic procurement, that is to improve efficiency level of procurement process. The application features provide ease to procurement professionals during procurement process. Additionally, they can also broadcast information. Though the application is currently running, development effort to improve the application to keep up with technology update does not stop.

Statement (X9): The relay of information from procurement team to providers and vice versa is real time.

Summary:

The statement obeys one of the objectives of electronic procurement, that is to improve procurement's efficiency transparency. Through real-time information distribution, related updates on phases within procurement process are easily tracked by procurement professionals. By doing so, it helps to realize an open and transparent procurement process through effective communicative ecosystem.

Factors that support the effectiveness of e-procurements strongly related to government's projects are the objectives of e-procurement. They are: improvement of efficiency, transparency, accountability, to provide more market access, real time information access and better business competitiveness.

7. CONCLUSION

From data result and presented analysis above, this paper concludes:

1. The effectiveness of e-procurement in its role within government's projects in LKPP shows 0,812 meaning the two are strongly related and it has positive influence at 65,9%;

   Effectiveness of e-procurement shall be developed further due to its major function as a budget realization. The run of government's projects would automatically induce a consummated budget. This has been indicated in a report by LKPP (Government's institution of goods and services procurement) in 2019 as much as 95,71%;
2. The updated information was referred to viewpoints of procurement experts are:
   - E-procurement improves efficiency of procurement process and cover the needs of real time information by providing transparency and easiness

to procurement professionals to take positive roles in the procurement process.

- Informative application features ease procurement professionals during procurement process and also broadcast information.
- Real time information broadcast could create transparent procurement in an effective communication ecosystem.

REFERENCES

[1]. Arikunto, Suharsimi. 2006. Prosedur Penelitian Suatu Pendekatan Praktik. Jakarta:Rineka Cipta.

[2]. Bilson Simamora, 2005. Analisis Multivariat Pemasaran. Jakarta: Gramedia Pustaka Utama.

[3]. Ghozali, Imam, 2013, Aplikasi Analisis Multivariate dengan Program IBM SPSS 21.

[4]. Keputusan Deputi I No.3 Tahun 2018 Tentang Standar Dokumen Pengadaan Tentang Standar Dokumen Pemilihan Melalui Tender, Seleksi, Dan Tender Cepat Untuk Pengadaan Barang/Jasa Lainnya/Jasa Konsultansi.

[5]. Keputusan Deputi I No.4 Tahun 2018 Tentang Standar Dokumen Pemilihan Melalui Penunjukan Langsung Untuk Pengadaan Barang/Jasa Lainnya/Jasa Konsultansi.

[6]. Keputusan Deputi I No.5 Tentang Standar Dokumen Pemilihan Melalui Pengadaan Langsung Untuk Pengadaan Barang/Jasa Lainnya/Jasa Konsultansi.

[7]. Muhammad Mujtaba Habibi, Sri Untari, Tahun 2018, Efektivitas Pelaksanaan E-Procurement dalam Pengadaan Barang/Jasa Pemerintah, Jurnal Ilmiah Pendidikan Pancasila Kewarganegaraan (JIPPK), Vol 3.

[8]. Peraturan Presiden Nomor 16 Tahun 2018. Tentang Pengadaan Barang/Jasa Pemerintah.

[9]. Peraturan Lembaga Kebijakan Pengadaan Barang/Jasa Pemerintah Nomor 9 Tahun 2018. Tentang Pedoman Pelaksanaan Pengadaan Barang/Jasa Melalui Penyedia.

[10]. Peraturan Lembaga Kebijakan Pengadaan Barang/Jasa Pemerintah Nomor 11 Tahun 2018. Tentang Katalog Elektronik.

[11]. Sawidar, Muttaqin, Anita Rauzana, Tahun 2018, Analisis Faktor-Faktor Penerapan Pengadaan Barang/Jasa Pemerintah Secara E-Procurement Terhadap Penyerapan Anggran Di Kota Sabang, Jurnal Arsip Rekayasa Sipil dan Perencanaan (JARSP), Volume 1.

[12]. Sugiyono, 2006. Metode Penelitian Kuantitatif, Kualitatif dan R&D. Bandung:Alfabeta.

[13]. Sugiyono, 2007. Metode Penelitian Kuantitatif Kualitatif dan R&D. Bandung: Alfabeta.

[14]. Sugiyono, 2013. Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D. Bandung: Alfabeta.

[15]. Utami Reginasti, 2018. Tinjauan Pengadaan Barang/Jasa Pemerintah Melalui Sistem Pengadaan Barang/Jasa Elektronik. Jurnal Penagadaan. Vol. 1 No. 2, April 2018, p 25-35.

[16]. https://sirup.lkpp.go.id/sirup/ro/rekap/klpd/L36. Accessed in November 2019.

[17]. https://lpse.lkpp.go.id/eproc4 Accessed in November 2019.

[18]. https://ppid.lkpp.go.id/information/public/index. Accessed in November 2019.

[19]. https://www.kemenkeu.go.id/informasipublik/realisasi-apbn/. Accessed in Agustus 2020.

[20]. https://e-katalog.lkpp.go.id/. Accessed in November November 2019.

[21]. https://ekatalog.lkpp.go.id/id/katalog/produk/alat-berat/41?first=true. Accessed in November 2019.