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THE MODERATING EFFECT OF ECONOMIC GROWTH ABILITY OF FINANCIAL FACTORS ON THE IMPLEMENTATION OF E-GOVERNMENT

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Abstract

This study seeks to obtain the evidence about the ability of economic growth in moderating the influence of financial factors in Indonesian local government e-government implementation level. Using the dependent variable of Indonesia e-government ranking (PeGI) issued by the Ministry of Communication. The independent variable used in this study is Degree of Decentralization ratio (RDD), Local Government Financial Dependency Ratio (RKKD), Ratio of Locally-generated Revenue Effectiveness (PAD), and Economic Growth (GRDP) as a moderating variable. Purposive sampling method are used in this study. This study uses sampling criteria of the PeGI. Those criteria are divided into five dimensions (policy, institutional, infrastructure, applications, and planning). A sample of 220 cities/municipalities meets with those criteria. The data used in this research are taken from the Realization of the Regional Budget Reports (APBD) and the Central Statistics Agency (BPS) in 2012-2015. Descriptive statistics, classical assumption, and Moderated Regression Analysis (MRA) are used in this research.

The results showed that the Degree of Decentralization Ratio (RDD) and Locally-generated Revenue Effectiveness (PAD) were affecting the e-government implementation. On the other hand, Local Government Financial Dependency Ratio (RKKD) doesn't have an effect on e-government implementation. Economic growth does not affecting the implementation of e-government but moderating influence the degree of Decentralization Ratio (RDD) Locally-generated Revenue Effectiveness (PAD) on the implementation of e-government.



Keywords: *e-government, Degree of Decentralization Ratio, Locally-generated Revenue Effectiveness, Local Government Financial Dependency Ratio, Economic Growth*

JEL Classifications: *M48, H83*

INTRODUCTION

The development of communication and information technologies in Indonesia especially in governmental environment evolve rapidly after the issuance of the Keputusan Presiden No. 6 Tahun 2001 concerning the use and development of technology, communication and information. This regulation transforming the public service sector manages by the government (OECD, 2016). This transformation is marked by the development of electronic-government (e-government) (Susanti, Saedudin, & Witarsyah, 2014).

E-government implementation is some of the way to implement a good governance in governmental environment (Arum & Winarno, 2012). Good governance is an economic resource management for social development that will give benefit to the community. This management process should always be effective, efficient and equal (Loina, 2003).

The used of e-government intended to increase the public service by the government (Sipahutar & Sutaryo, 2016). The form of e-government in public services can be shown as the used of transactional service, public information administration, and public participation in decision making process (Nam, 2014).

E-government will increase governmental openness. This openness means that public can seek for any information regarding resource management process done by the government, thus will make the government more transparent (Mardiasmo, 2004). This transparency is important, because if the government is transparent than public can supervise and make a correction to the government.

E-government is an interesting topic to be studied, because the result from previous studies on e-government topic shows some inconsistent result. A study conducted by (Rora, 2010) show that local government size and Local Government Financial Dependency Ratio significantly affecting financial information disclosure on their website. Contrarily to that result, a study conducted by (Rahman, Sutaryo, & Agus, 2013) show that local government



size, local government type and Local Government Financial Dependency Ratio does not significantly affecting the e-government implementation.

Financial factor like Locally-generated Revenue also shows inconsistent result in their relationship with e-government implementation. Study conducted by (Martani & Liestiani, 2010) find that Locally-generated Revenue will be significantly affecting e-government implementation. On the other hand, result from (Zulkifli & Suhardi, 2010) study show that Locally-generated Revenue won't be affecting e-government implementation.

This research utilize Indonesian e-government ranking (PeGI) issued by the ministry of communication and information as a proxy for e-government implementation. This research also used economic growth level issued by the central statistical bureau as a moderating variable.

LITERATURE REVIEW

E-government Implementation

E-government implementation according to Instruksi Presiden No. 3 Tahun 2003 concerning national policy and strategy on e-government, intended to open a chance on informational access, management and utilization to increase efficiency, effectiveness, transpiration, and accountability of governmental performance. E-government implementation is done by utilize and optimizing the use of information and communication technology on government work process and management.

The use of e-government on governmental institution can be divided into five type of usage, there are: service usefulness, transactional service, public information seeking, public participation, and decision making process (Nam, 2014).

Degree of Decentralization Ratio

Degree of decentralization ratio means the contribution of locally-generated revenue (PAD) on the total of local revenue. If the PAD is high, than the local government ability on decentralization performance will also be high and vice versa. This ratio calculated by dividing the PAD with total of local revenue (Mahmudi, 2007). Implementation of e-



government needs some resource, which needs to be financed using the PAD. It means that if the PAD is low, than local government won't have the ability for implementing e-government (Dewi & Haryanto, 2013).

H1: Degree of Decentralization ratio will positively impact on e-government implementation

Local Government Financial Dependency Ratio

Local Government Financial Dependency Ratio is a degree of contribution on transfer revenue to local government total revenue. A high dependency ratio means that local government will be more dependent to the central government (Mahmudi, 2007). Thus the local government won't have free funding for e-government implementation.

H2: Local Government Financial Dependency Ratio will positively affecting on e-government implementation

Ratio of Locally-generated Revenue Effectiveness

Ratio of Locally-generated Revenue Effectiveness is a ratio that show local government ability to mobilize PAD according to the assigned target. This ratio can be calculated by comparing PAD realization with budgeted PAD. More effective local government will give them enough fund for implementing e-government.

H3: Ratio of Locally-generated Revenue Effectiveness will positively affecting e-government implementation

Economic Growth

Economic growth can be defined as an increase in Gross Domestic Product (GDP) without considering that the growth is bigger or smaller than population growth level (Arsyat, 1999). There are 3 components in economic growth, which is: accumulation in capital that involve a new investment on land, physical equipment or human resource, and population growth (Apriana & Suryanto, 2010). A region with high economic growth will face more accountability request from the community Syle and Tennson (2007) in (Dewi & Haryanto, 2013). Thus the local government will be more concern in implementing e-government.

H4: economic growth will positively affecting e-government implementation



Moderating Effect of Economic Growth

Economic growth can also increase or decrease the effect of Degree of decentralization ratio, Local Government Financial Dependency Ratio, and Ratio of Locally-generated Revenue Effectiveness. Economic growth can be directly related to decentralization ratio. A high economic growth in one region can make that region have high a decentralization ratio, because high economic growth can be tightly related to increasing of the PAD. Thus economic growth can also have some impact on Local Government Financial Dependency Ratio, Ratio of Locally-generated Revenue Effectiveness via its impact on PAD. According to that relation between economic growth and those three variables, it can be said that economic growth will have moderating effect with its relationship with e-government implementation. Thus, another three variables rises from this relationship:

H5: Economic Growth will positively affecting on a relationship between Degree of decentralization ratio and e-government implementation

H6: Economic Growth will positively affecting on a relationship between Local Government Financial Dependency Ratio and e-government implementation

H7: Economic Growth will positively affecting on a relationship between Ratio of Locally-generated Revenue Effectiveness and e-government implementation

RESEARCH METHOD

Dependent variable in this research which is e-government implementation are measured using PeGI from ministry of communication and information of Republic of Indonesia. The four Independent variables in this research, which is Degree of decentralization ratio, Local Government Financial Dependency Ratio, and Ratio of Locally-generated Revenue Effectiveness are taken from budget realization report from municipalities in Indonesia. The independent variable of economic growth which also act as moderating variable are taken from report published by Indonesian Central Statistics Agency or BPS. The data used in this research taken from 220 municipalities in Indonesia between 2012 to 2015.



Table 1. Variable Operational

Variable	Description	Indicator	Measurement	Instrument
Degree of decentralization ratio (X ₁)	RDD	<ul style="list-style-type: none"> ● Generated Revenue ● Locally-Generated 	Ratio	Local Government Budget Realization Report
Local Government Financial Dependency Ratio (X ₂)	RKKD	<ul style="list-style-type: none"> ● Transfer Revenue ● Total Of Local Revenue 	Ratio	Local Government Budget Realization Report
Ratio of Locally-generated Revenue Effectiveness (X ₃)	PAD	<ul style="list-style-type: none"> ● Realization Of Local Revenue ● Budgeted Local Revenue 	Ratio	Local Government Budget Realization Report
Economic Growth (X ₄)	PDRB	<ul style="list-style-type: none"> ● Constant Prices of Gross Domestic Product 	Ratio	Provincial Domestic table Gross Product
Indonesian government ranking (Y)	e- PEGI	<ul style="list-style-type: none"> ● Policy ● Institutional, ● Infrastructure ● Applications ● Planning 	Index	Ministry of Communication Report



This research employ Moderated Regression Analysis (MRA) for hypothesis testing purpose. This kind of testing are used because this research want to look for any interaction between those variables. Moderated Regression Analysis are chosen because there is some interaction or multiplication between at least two of the independent variable in the regression equation (Ghozali, 2006). The regression equation used in this research are:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_1 X_4 + \beta_6 X_2 X_4 + \beta_7 X_3 X_4 + e$$

Description:

- Y : Indonesian e-government ranking
- X₁ : Degree of decentralization ratio
- X₂ : Local Government Financial Dependency Ratio
- X₃ : Ratio of Locally-generated Revenue Effectiveness
- X₄ : Economic Growth
- α : Constanta
- β : Regression Coefficient
- e : Error

RESULT AND DISCUSSION

Descriptive Statistics

Table 2. Descriptive Statistics

	N	Min	Max	Mean	Std. Deviation
X₁	220	0.01	0.79	0.1208	0.09957
X₂	220	0.02	0.98	0.8468	0.11683
X₃	220	0.10	2.07	1.1731	0.32311
X₄	220	-5.98	9.51	5.4554	1.67531
Y	220	1.01	3.62	1.9050	0.54863



The descriptive statistics analysis shows that highest Indonesian e-government ranking is held by Pekalongan City with e-government implementation value of 3.62, and the lowest score held by Toraja Utara Municipalities with only 1.01. highest Degree of decentralization ratio held by Bandung Municipalities with value of 79%. The lowest Degree of decentralization ratio held by Tambraw Municipalities with only 1% decentralization ratio value.

Highest Local Government Financial Dependency Ratio of 98% held by Maluku Utara Municipalities and the lowest of 2% held by Ciamis Municipalities. Highest Ratio of Locally-generated Revenue Effectiveness of 100% held by Banyuasin Municipalities and the lowest of 10% held by Ciamis Municipalities. As for economic growth variable, the highest scoring municipalities are Buton Utara with economic growth value of 9.51%. The lowest economic growth are Lhokseumawe with value below 0%.

HYPOTHESIS TESTING AND DISCUSSION

Table 3. Hypothesis Testing Result

Symbol	Variable	Beta Coefficient	Coefficient Value	Standard Error	T-value	<i>p</i>
X ₁	RDD	β ₁	11.442	3.929	2.912	0.04
X ₂	RKKD	β ₂	5.286	3.494	1.513	0.132
X ₃	PAD	β ₃	-0.886	0.394	-2.248	0.26
X ₄	PDRB	β ₄	0.778	0.666	1.168	0.244
X ₁ X ₄	MODER	β ₅	-1.494	0.728	-2.054	0.041
	ATING					
X ₂ X ₄	MODER	β ₆	-0.935	0.678	-1.379	0.169
	ATING					
X ₃ X ₄	MODER	β ₇	0.152	0.072	2.112	0.36
	ATING					
R ² =25.7	F=10.536	<i>p</i> =0.000	N=220			
%						



Every variable used in this research are normally distributed, and also pass every classical assumption testing employ in this research. Statistical result shows that the R^2 value of this model is 0.257, it means that independent variable used in this research can explain about 25.7% of the phenomenon. F test value from this model are 10.536 with probability <0.05 . It means that this regression model are fit for hypothesis testing.

First Hypothesis of this research stated that Ratio of Locally-generated Revenue Effectiveness will positively affecting e-government implementation. With β 11.442 and sig0.04 <0.05 , the result show that Ratio of Locally-generated Revenue Effectiveness are indeed affecting e-government implementation. Thus H1 are supported.

Second hypothesis (H2) are rejected with β 5.286 and sig0.132 > 0.05 . H4 of this research also rejected with β 0.778 and sig0.244 > 0.05 . It means that there is no relationship between Local Government Financial Dependency Ratio and economic growth with e-government implementation. On the other hand, Ratio of Locally-generated Revenue Effectiveness are affecting e-government implementation with β 0.886, sig 0.026 < 0.05 , thus H3 are supported.

As for the moderating effect of economic growth, result show that economic growth are moderating the relation between Degree of decentralization ratio, Ratio of Locally-generated Revenue Effectiveness and e-government implementation. Statistical testing result show that sig value of 0.041 and 0.036 for both hypothesis, thus H5 and H7 are supported. These results are consistent with result from (Sugiardi, Rini, & Supadmi, 2014) and (Putu & Dwiranda, 2014). Those research stated that economic growth in a region can attract some investor to invest in those region, which will increase its Locally-generated Revenue. With high Locally-generated Revenue, local government will have some funds for implementing e-government in its services to community.

The statistical result shows no moderating effect of economic growth on the relation between Local Government Financial Dependency Ratio and e-government implementation. With sig 0.169 > 0.05 H6 are rejected. Its means that this research are inconsistent with finding from (Ngurah & Dwirandra, 2014). That research finds that economic growth will affecting budget expenditure allocation in supporting e-government implementation.



CONCLUSION

This study aims to seek for evidence in moderating effect of economic growth on local government financial factors for e-government implementation. The result of this study shows that Degree of decentralization ratio (RDD), Ratio of Locally-generated Revenue Effectiveness (PAD) are affecting e-government implementation. On the other hand, Local Government Financial Dependency Ratio (RKKD) doesn't have any effect on e-government implementation. Economic growth doesn't directly affecting e-government implementation, but have some moderating effect on the relation between RDD and PAD and e-government implementation.

The result of this research implies that policy makers in governmental environment need to optimize the function of e-government to support its community services. Next research should consider in using other variables such as social factors, culture, civil servant resource, and other non-financial factors.

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