



Local Government Spending on Information and Communication Technology

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Abstract. The use of information and communication technology is inseparable and covers all parts of people's lives. With the development of information and communication technology adopted by a country, the human development index should also increase. This study aims to analyze local government spending on information and communication technology and its impact on the human development index. The research model is a quantitative descriptive, that explains the impact of the adoption of information and communication technology on the human development index. The research sample is local government with an observation period during 2018-2021. The government's efforts to provide information and communication technology facilities that are easily accessible to the public have had an effect on increasing the human development index. Increasing the information technology index has an impact on increasing the human development index in Indonesia. This study provides empirical evidence that the adoption of information and communication technology has an effect on improving human development in a country. This research also observes within the scope of local government and society in every province in Indonesia.

Keywords: Government Spending, ICT, Human Development Index

1 Introduction

Information and communication technology used by local governments can improve city management and functions [1]. In addition, the Internet can facilitate networking opportunities between municipalities and institutional learning. Utilization of various web-based applications affects the increase in awareness of spatial issues which in turn also have an impact on the specified city area. Meanwhile, interactive mapping will open up opportunities to be able to handle spatial problems virtually.

Information and communication technologies, related telecommunications and other digital networks can be considered as key driving forces in building an information economy and society and are increasingly being recognized as factors in improving existing management practices [2]. E-governance and the appropriate use of information and communication technology at the local level can enhance and play an important role in economic and social development, especially empowering city officials

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and representatives, ensuring relationships, networks, timely, efficient, transparent and accountable services are maintained. Utilization of information and communication technology can help change accessibility for the better, improve quality, make public services more cost effective, and can help improve relations between customers and citizens and public bodies working for their benefit.

Information and communication technology is an important conduit for increasing knowledge, political awareness, generating awareness, understanding, and guiding citizens, and social and political forces and groups. Information and communication technology will increase transparency, accountability in government systems and reduce corruption. The use of technology and information will also have an efficient and economical impact on government development.

The research results of Salatin and Fallah [3] show that information and communication technology has a significant positive effect on the quality of state governance. Mursyid [4] found evidence that the development of information and communication technology has a positive and significant effect on human development in eastern Indonesia. Farmansyah and Isnalita's research [5] concerning the effect of information and communication technology on the organizational performance of local governments shows that financing for infrastructure and software for information and communication technology has a positive relationship to the organizational performance of local governments.

Agustina and Pramana [6] found that the economic growth of all provinces in Indonesia was influenced by the ICT index and ICT investment. The findings of Rosales et al. (2019) stated that the development of information and communication technology did not only have a positive influence on the economy but also had an effect on the health and education sectors. The motivation for this research is to find out local government spending in information and communication technology from 2017 to 2021 and its effect on HDI.

2 Method

The research sample is the provincial government in Indonesia. The research data is the provincial government financial reports for 2017-2021. The data taken from the financial reports is data on local government expenditures for information and communication technology funding. Other data related to this research is the human development index for 2017-2021 in Indonesia. Data analysis was carried out using a simple linear regression test to determine the effect of local government spending on information and communication technology on the human development index in Indonesia.

3 Result And Discussion

This study aims to examine the effect of regional government information and communication technology spending on the human development index in Indonesia during the 2018-2021 periods. A graph of local government spending in information and communication technology is presented in Fig. 1.

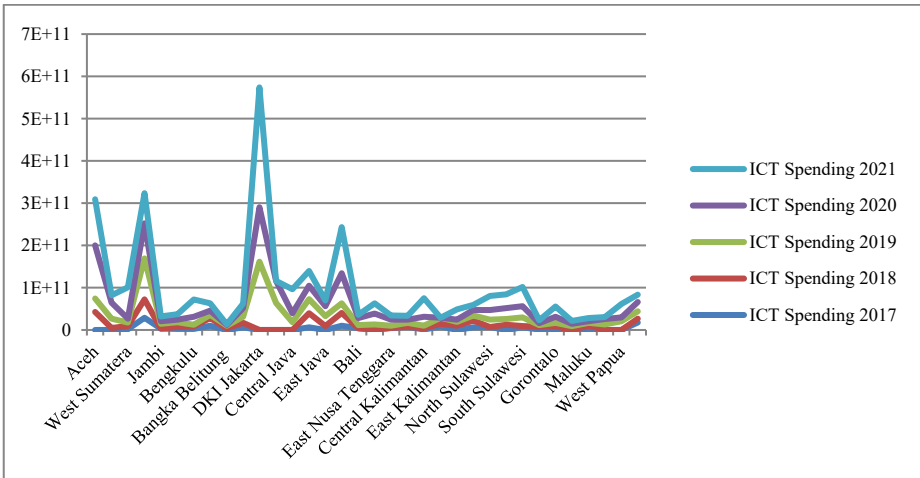


Fig. 1. Local Government Spending on Information and Communication Technology

Fig. 1 shows local government spending on information and communication technology during 2017-2021. In several years there have been regional governments that have not provided information and communication technology spending data. Table 1 shows the statistical description of the research sample.

Table 1. Descriptive Statistics

Variables & Data	N	Min	Max	Mean	Standard Deviation
HDI	170	59	81	70.7211	3.961
ICT Spending	146	0	283580152425,00	22481586392,84	34266287476,97

During the observation period, several local governments did not fund ICT, so the number of samples was only 146. This was because the local governments concerned prioritized their expenditures in other sectors.

Table 2. The Result of Regression Test

Variables	Coefficient	t-value	Significance	F value	Adjusted R ²
Constant (a)	69.797	198.814	0.000	28.347	0.159
ICT Spending	4.572	5.324	0.000		

The adjusted R² value for the regression test results is 0.159, this means that the ICT financing variable affects HDI by 15.9%. The remaining 84.1% is influenced by other variables. The coefficient value of the simple regression test is stated in the equation model:

$$HDI = \beta_0 + \beta_1 \text{ICT Spending} + e$$

$$HDI = 69.797 + 4.572 \text{ ICT Spending}$$

The result above gives the comprehension that if the value of ICT spending is zero, the value of HDI will be predicted as big as 69,797 based on constant value (a). The coefficient value of ICT spending 4,572 shows that if ICT spending increases one item, then there will be an increase of 4,572 in HDI. The results of the hypothesis test show that the significance probability value of ICT spending is 0.000. Because this value is less than 0.05, it is statistically proven that ICT spending has a positive and significant effect on HDI. Thus, the hypothesis which states that ICT funding has a positive and significant effect on HDI is accepted.

Information and communication technology is an important conduit for knowledge, political awareness, generates awareness, understands, and guides citizens, and social and political forces and groups. Information and communication technology will support increased transparency, government accountability and reduce corruption. Rosales et al. [7] stated that the development of information and communication technology did not only have a positive influence on the economy but also had an effect on the health and education sectors. This statement is in line with the results of this study which found that ICT spending has an effect on HDI. This research is also supported by the results of previous research conducted by Mursyid [4].

4 Conclusion

The government's efforts to provide information and communication technology facilities that are easily accessible to the public have had an effect on increasing the human development index. Increasing the information technology index has an impact on increasing the human development index in Indonesia. This study provides empirical evidence that the adoption of information and communication technology has an effect on improving human development in a country. This research also observes within the scope of local government and society in every province in Indonesia.

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