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Empowering Smart Cities through Smart Governance: A Strategic Path to Employee Productivity

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ABSTRACT

This study aims to find out how smart governance influences to create a smart city on employee work productivity at the Governor's Office of North Sumatra. In this study, the authors used quantitative research methods. Data collection procedures in this study are observation (observation), interviews, documentation studies and questionnaires. Data analysis techniques in this study were correlation analysis, simple linear regression analysis, hypothesis testing (t test), and coefficient of determination test (R2). The results of the correlation test obtained that the correlation coefficient between variable X (Smart Governance) and variable Y (Employee Work Productivity) is 0.730. This means that variables X and Y have a strong influence because they have a correlation value that is at 0.60 – 0.799 (strong/high correlation). The results of simple linear regression coefficient calculations obtained a constant coefficient value of 3,084 and an independent variable coefficient (X) of 0,827 so that a regression equation Y = 3,084 + 0,827 X + ε or Employee Work Productivity = 3,084 + 0.827 Smart Governance + ε. The results of calculations with the t test (hypothesis) obtained a calculated t value of 8.614 which is greater than the t table value of 1.997 or 8.614 > 1.997 at a sig level of 0.000. So, the test results conclude that there is a positive and significant influence between variable X on variable Y, or in other words Smart Governance (X) has a positive and significant effect on Employee Work Productivity (Y) in the Office of the Governor of North Sumatra in the General Affairs and Equipment Bureau section. The test results using the coefficient of determination, obtained an R value of 0.730 while an R2 value of 0.533 means a coefficient of determination of 0.533 or R2 x 100% of 53.3%. That is, this value has implications that the influence of the Smart Governance (X) variable affects Employee Work Productivity (Y) at the North Sumatra Governor's Office by 53.3% and the remaining 46.7% is influenced by other variables not discussed in the study.

Keywords: **Smart Governance, Employee Work Productivity, E-Government, Smart City, Employee Productivity**

INTRODUCTION

Smart government is one of the basic elements that must be met to realize a smart city. In general, smart government is a term that refers to the implementation of ICT (Information and Communication Technologies) in public services in the field of government effectively. Meanwhile, smart cities in addition to covering government administration also handle health services, transportation, education, and so on. Smart governance is also one of the 6 dimensions of the realization of a smart city (Cohen, 2013:17). Smart governance consists of aspects of administrative services for the community with factors in it, such as participation in decision making, public and social services, transparent government, online services, facilities and infrastructure.

Questions about the concept of combining solutions to administrative service problems in society with technology have been a hot topic throughout the world for a long time. This is also what later encouraged the emergence of the term e-government in the past. At that time, e-government focused on initiatives so that technology could be used to improve the quality and effectiveness of public services. Then some time after that, the implementation of e-government

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began to be seen with the existence of real-time and faster services in government agencies. Unfortunately, The weakness of the e-government concept is that the services are exclusive, meaning that they are separate for each service and agency.

In smart government, public services are carried out centrally, the service system is integrated. The impact is that the system in smart government can support and guarantee easy access to services effectively.According to (Meijer, 2016:19) to build a city that implements smart governance, collaboration between humans and technology is needed to create a transparent government. Factors that influence the implementation of smart governance in a city are politics that play a role in the government's vision and the need for changes in the institutional side. Smart governance requires a set of principles that can be adopted by the Government to control and as a guide in the development of a city. To create public services that can be accessed by various users without time limits (i.e. smart services), good governance (smart governance) utilizes sophisticated information and communication technology (ICT). The use of ICT allows people to access information via smartphones and other smart devices (Anttiroiko, 2014:30).

*Smart government*concerning one of the most important elements in urban areas, namely government agencies/agencies developed based on the function of Information Technology so that it can be accessed by stakeholders effectively and efficiently. Just like the basic function of government, namely managing all aspects of data information related to urban areas including society, infrastructure, networks, resources, policies, economy, and the environment. in relation to the concept of smart government, all the data information above is converted into digital form so that it can be stored in a "database" which can later be accessed by stakeholders through an online network anywhere and anytime. The human resources aspect in an agency or government plays an important role, namely as one of the benchmarks for the level of employee work productivity, with the understanding that if the level of quality of human resources in a government is high or good, then the level of employee work productivity in that government is easier to increase, and vice versa. Therefore, for every government that wants to progress, it is required to increase its attention to the human resources aspect it has, with the aim that hopes and goals can be achieved.

The issue of the need to obtain superior and professional employees expected by many organizations or companies in Indonesia to compete in the era of globalization, often remains a mere dream. So much employee development funds are spent for this purpose, but often result in disappointment. The employee development process is a starting point where organizations want to improve and develop individual skills, knowledge, and abilities (SKA) according to current and future needs (Sutrisno, 2009:61). Strategic employee quality development towards improving skills, motivation, and employee development is a primary requirement in the era of globalization in order to be able to compete and be independent. In line with that, the government's vision in the future in the context of human resource development is to prepare professional employees, able to compete and anticipate rapid world developments in various aspects so as to be able to improve the quality of professional services to realize a smart government towards a smart city. Productivity is a measure of the extent to which an activity is able to achieve the set quantity and quality targets (Ernie Tisnawati and Kurniawan, 2005:369). Therefore, it is appropriate for owners of institutions, both private and government, to provide motivation for their employees to produce high productivity. Therefore, an institution or

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organization provides a kind of special attention to its employees to improve the progress and capabilities of the workforce and employee welfare.

Work productivity is a problem that must receive serious attention from government agencies, because increasing work productivity will not happen by itself, but there must be efforts and participation from both government agencies and employees themselves (Aida, 2016:42). Work quality is determined by how employees feel their role in the organization, while productivity is increased through the creation of a good quality of work life. It is hoped that through a productive work environment, employee involvement in the management process will increase. Work quality which is generally associated with quality of work life is a system approach to designing work and development in a very broad scope. So, smart governance planning must refer to the concept of smart city and the concept of governance planning which is widely developed by using existing frameworks through good employee performance, so that smart city can be realized. *Smart cityborn* from the combination of human capital (HR), the application of technology in infrastructure, communities that build from the social side, and the emergence of creative businesses. A superior government that can be trusted and is open-minded will foster the creativity of the community and the economic development of a city.

LITERATURE REVIEW

The Relationship between Smart Governance and Employee Productivity

Employee productivity is one of the indicators of the success of Smart Governance implementation. According to Saxena (2017), the adoption of technology in government governance allows employees to work more efficiently because various administrative tasks can be completed automatically. In addition, technology facilitates collaboration between employees through cloud-based systems and collaborative applications. Another study by Meijer & Bolívar (2016) showed that digital competency training for government employees plays an important role in ensuring the success of Smart Governance implementation. Employees who have technological skills tend to be more adaptive to change and are able to utilize technology optimally in their work. However, this study also noted that most employees still need further training to maximize existing technology.

Relevance to Research in North Sumatra

Research on Smart Governance in North Sumatra, especially in the Governor's Office, is important to identify local potentials and challenges in adopting technology. This study can enrich the literature by providing a specific contextual perspective, especially in the relationship between technology, employee productivity, and local community needs. It can also be a reference for developing implementation strategies that are appropriate to regional conditions. By reviewing the existing literature, this study aims to bridge the gap in the literature related to the implementation of Smart Governance at the provincial level, especially in the context of North Sumatra. In addition, this study will also continue previous research by focusing on the strategic role of Smart Governance in the local context, namely in the North Sumatra Governor's Office. This study will also explore the relationship between technology implementation and employee work productivity, and offer recommendations to overcome existing challenges.

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METHODS

The research method is basically a scientific way to obtain data with certain goals and uses. To achieve the required goals, a relevant method is needed to achieve the desired goals.. In this study, the author uses a quantitative research method. According to Sugiyono (2017:14) quantitative research methods can be interpreted as research methods based on the philosophy of positivism, used to research certain populations or samples, sampling techniques are generally carried out randomly, data collection uses research instruments, data analysis is quantitative/statistical, with the aim of testing the established hypothesis.

RESULTS AND DISCUSSION

Validity Test

The calculation of this validity test uses the help of Statistical Package for the Social Science (SPSS) version 20 and Microsoft Office Excel. The validity test is carried out by comparing the calculated r value with the r table for degree of freedom (df) = n-2, in this case n is the number of samples. Large (df) = 67-2 then the number 65 is obtained, and alpha = 0.05 gets r table 0.240. If the calculated r value> r table value, then the item is declared valid, and if the calculated r value < r table value, then the item is declared invalid. This test is carried out with validity testing so that the following results are obtained:

Table 1. Results of Validity Test of Variable X

Variables	Question Items	r table	r count	Information
Smart Governance (X)	Statement 1	0.240	0.386	Valid
	Statement 2		0.486	Valid
	Statement 3		0.467	Valid
	Statement 4		0.598	Valid
	Statement 5		0.453	Valid

Based on the results of the validity test in the table above, it is known that all the statement items of the Smart Governance (X) variable show a calculated r value greater than the r table. Thus, all the statement items of the variables above are declared valid or legitimate and meet the requirements as a measuring tool for research variables.

Table 2. Results of Validity Test of Variable Y

Variables	Question Items	r table	r count	Information
Employee Work Productivity (Y)	Statement 1	0.240	0.614	Valid
	Statement 2		0.565	Valid
	Statement 3		0.574	Valid
	Statement 4		0.464	Valid
	Statement 5		0.419	Valid

Based on the results of the validity test in the table above, it is known that all the statement items of the Employee Work Productivity variable (Y) show a calculated r value greater than the r table. Thus, all the statement items of the variables above are declared valid or legitimate and meet the requirements as a measuring instrument for research variables. Thus, the questionnaire can be continued to the reliability testing stage.

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Reliability Test

Reliability testing is carried out to determine the accuracy of an instrument (measuring tool) in measuring the same symptoms even at different times. According to Suharsimi Arikunto (2010:221), reliability refers to the understanding that an instrument can be trusted to be used as a data collection tool because the instrument is good. Measurement results that have a high level of reliability will be able to provide reliable results. Instrument reliability is a requirement for testing the validity of the instrument, therefore a valid instrument is generally reliable but instrument reliability testing needs to be carried out. Reliability testing can be carried out simultaneously on all questions. If the Alpha value is > 0.60 then the instrument is reliable. The reliability for each variable is presented in the following table.

Table 3. Reliability Test Results

No	Variables	Cronbach's Alpha	Reliability Coefficient	Information
1	*Smart Governance*(X)	0.715	0.600	Reliable
2	Employee Work Productivity (Y)	0,758	0.600	Reliable

From the results of the reliability test of each research variable using the SPSS program, the results obtained with a calculated r value (Cronbach'a Alpha) greater than the r table value (Reliability Coefficient) with a sample size (n) of 67 respondents and a significant level = 5% = 0.05 with an r table value of 0.60. Based on the results of the reliability test, it is known that the r alpha value of all variables is greater than the r table value. So, it can be stated that the questionnaire for the Smart Governance (X) and Employee Work Productivity (Y) variables used can produce reliable or trustworthy data.

Simple Linear Regression Analysis

Correlation analysis is used to see the closeness of the relationship between the variables studied. In this study, there are two variables whose relationship will be sought, namely between variable X (Smart Governance) which is suspected of having an influence on variable Y (Employee Work Productivity). Based on the results of calculations carried out using SPSS 20 for Windows software, the results of the estimated magnitude of the relationship between variable X and variable Y are obtained as in the table below.

Table 4. Correlation Test Results of Variable X Against Variable Y

Correlations

		Employee Work Productivity	Smart_Governance
Pearson Correlation	Employee Work Productivity	1,000	.730
	Smart_Governance	.730	1,000
Sig. (1-tailed)	Employee Work Productivity	.	.000
	Smart_Governance	.000	.
N	Employee Work Productivity	67	67
	Smart_Governance	67	67

From the results of the correlation test above, it can be seen that the correlation coefficient between variable X and variable Y is 0.730. To interpret the strength of the relationship between the two variables, it is done by looking at the correlation coefficient number of the calculation results using the interpretation of the r value as follows:

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Table 3. Interpretation Results of r Value

Coefficient Interval	Relationship Level	Relationship Level
0.00 – 0.199	Very Low	Not Strong (Not Correlated)
0.20 – 0.399	Low	Not Strong Enough
0.40 – 0.599	Currently	Strong Enough
0.60 – 0.799	Tall	Strong
0.80 – 0.100	Very high	Very strong

From the data above, it can be concluded that the Smart Governance variable (X) and the Employee Work Productivity variable (Y) have a strong influence because they have a correlation value of 0.60 - 0.799 (strong/high correlation), namely 0.730.

Simple Linear Regression Analysis

Regression analysis is used to determine the influence of one or more independent variables on the dependent variable. To test how much influence Smart Governance (X) has on Employee Work Productivity (Y) at the North Sumatra Governor's Office, a simple linear regression analysis is used using SPSS 20 for Windows software, which can be seen in the results of data processing as in the following table:

Table 4. Simple Linear Regression Analysis Results Table

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,084	1,813		1,701	.094
	Smart_Governance	.827	.096	.730	8,614	.000

a. Dependent Variable:Employee Work Productivity

From the results of the calculation of the simple linear regression coefficient above, the constant coefficient value is 3.084 and the independent variable coefficient (X) is 0.827, so the regression equation obtained is:

$$\mathbf{Y = 3.084 + 0.827\ X + \varepsilon}$$

Employee Work Productivity = 3,084 + 0.827 Smart Governance + ε

Based on the equation, it is known that the constant value is 3.084. Mathematically, this constant value states that when the independent variable X (Smart Governance) is 0, then the dependent variable Y (Employee Work Productivity) has a value of 3.084. Furthermore, the positive value (+) 0.827 contained in the regression coefficient of the independent variable X (Smart Governance) illustrates that the direction of the relationship between the independent variable X (Smart Governance) and the dependent variable Y (Employee Work Productivity) is unidirectional, where every one unit increase in variable X will cause an increase in variable Y by 0.748.

Hypothesis Test (t-Test)

To conduct a t-test, a coefficient table is used, as listed in the previous regression table. The t-test is conducted to determine whether the independent variable X (Smart Governance) and the dependent variable Y (Employee Work Productivity) have a real influence or not, as in

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the following table.

Table 5. Hypothesis Test Results Table (t-Test)

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,084	1,813		1,701	.094
	Smart_Governance	.827	.096	.730	8,614	.000

a. Dependent Variable:Employee Work Productivity

Based on the table data above, the t-value is 8.614 at a sig level of 0.000. This means that the t-value of 8.614 at a probability (confidence) level of 0.05 produces a t-table value of 1.997. The results of the t-test are associated with the following statistical hypothesis:
The criteria for accepting a hypothesis are:

a. If t count > t table and sig < 0.05, then H0 is rejected and H1 is accepted.
b. If t count < t table, and sig > 0.05 then H0 is accepted and H1 is rejected.
c. Real level = 5%, degrees of freedom (df) = n-2 = 67-2 = 65

From the calculation results above, it is known that the calculated t value obtained is 8.614 which is greater than the t table value which is 1.997 or 8.614> 1.997 at the sig level of 0.000. So, the test results conclude that there is a positive and significant influence between variable X and variable Y, or in other words, Smart Governance (X) has a positive and significant effect on Employee Work Productivity (Y) at the North Sumatra Governor's Office, General and Equipment Bureau.

Coefficient of Determination Test (R^2)

The determination coefficient test (R2) is conducted to determine how much the independent variable can explain the dependent variable. The determination coefficient test is used to measure the accuracy of the analysis model created. The determination coefficient value is a tool to measure the amount of contribution from the independent variables studied to the variation of the dependent variable. The results of the determination coefficient of each variable are as follows:

Table 6. Results of Determination Coefficient Test

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.730a	.533	.526	1,941

a. Predictors: (Constant),*Smart Governance*

From the model summary table above, it can be seen that the R value is 0.730 while the R2 value is 0.533. Therefore, this determination coefficient test is obtained from a simple linear regression calculation, so the determination coefficient is 0.533 or R2 x 100% of 53.3%. This means that from this value, it has an implication that the influence of the Smart Governance variable (X) has an effect on Employee Work Productivity (Y) at the North Sumatra Governor's

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Office by 53.3% and the remaining 46.7% is influenced by other variables not discussed in this study.

CONCLUSION

Results of the discussion it can be concluded that:

1. From the results of the correlation test, it can be seen that the correlation coefficient between variable X (Smart Governance) and variable Y (Employee Work Productivity) is 0.730. This means that variables X and Y have a strong influence because they have a correlation value of 0.60 - 0.799 (strong/high correlation).
2. From the calculation of the simple linear regression coefficient, the constant coefficient value is 3.084 and the independent variable coefficient (X) is 0.827, so that the regression equation is Y = 3.084 + 0.827 X + ε or Employee Work Productivity = 3.084 + 0.827 Smart Governance + ε. Based on this equation, it is known that the constant value is 3.084. Mathematically, this constant value states that when the independent variable X (Smart Governance) is 0, then the dependent variable Y (Employee Work Productivity) has a value of 3.084. Furthermore, the positive value (+) 0.827 contained in the regression coefficient of the independent variable X illustrates that the direction of the relationship between the independent variable X and the dependent variable Y (Employee Work Productivity) is unidirectional, where each increase in one unit of variable X will cause an increase in variable Y by 0.748.
3. From the calculation results with the t-test (hypothesis), the calculated t value of 8.614 is greater than the t-table value of 1.997 or 8.614> 1.997 at a sig level of 0.000. So, the test results conclude that there is a positive and significant influence between variable X and variable Y, or in other words, Smart Governance (X) has a positive and significant effect on Employee Work Productivity (Y) at the North Sumatra Governor's Office, General and Equipment Bureau.
4. From the test results using the coefficient of determination, the R value is 0.730 while the R2 value is 0.533, so the coefficient of determination is 0.533 or R2 x 100% is 53.3%. This means that from this value it has an implication that the influence of the Smart Governance variable (X) has an effect on Employee Work Productivity (Y) at the North Sumatra Governor's Office by 53.3% and the remaining 46.7% is influenced by other variables not discussed in this study.
5. Thus, the hypothesis formulated in this study can be accepted as true, namely that Smart Governance (X) has a positive and significant effect on Employee Work Productivity (Y) at the North Sumatra Governor's Office by 53.3%.

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