
What does it Take to Turns in to Smart Governance City? Jambi City Experiences

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Abstract:

The transformation towards a smart city has become a focus for local governments, including the city of Jambi, which has been selected as one of Indonesia's smart city pilot cities. However, the implementation of smart governance as a key indicator still faces challenges, particularly in terms of organizational readiness and dynamic managerial capacity. This study aims to analyze how the dynamic managerial capacity and organizational readiness of the Jambi City government affect organizational performance in the digitalization transformation of this city towards smart governance. This research is a descriptive-associative quantitative study that aims to describe each variable in the model, as well as find out the relationship between several variables studied, The population in this study were all Local Government Organizations (OPD) in Jambi City as many as 30 OPDs with a sample of five OPDs which are direct implementers of the Smart Governance agenda. The results showed the achievement of smart governance in three aspects, namely excellent service, bureaucratic management and decision making. All three are supported directly or partially by the dynamic managerial abilities of the head of the office and the head of the section or unit in the OPD. However, the organizational readiness of the OPD contributes negatively, meaning that all organizational components are not ready to support the transformation of smart governance and only from key managers. This study also found that another factor that is fundamental to the implementation of smart governance is the political will of the Jambi City Regional Head. Therefore, the author recommends the Jambi city government to increase the capacity of managers within the Jambi City government more comprehensively in order to regenerate and develop prepare a master plan to target organizational capacity building in terms of infrastructure, human resources, finance, mindset and cooperation owned by the Jambi City Government.

Keywords: Digital Transformation; Dynamic Capabilities; Organizational Readiness; Smart City; Smart Governance.

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INTRODUCTION

The local government has undertaken many initiatives to meet the demands of autonomy development. The debate about regional development, especially with the use of information technology, ultimately leads to the concept of *smart city* (Hollands, 2020). In recent years, the concept of *smart cities* has gained considerable popularity and attention from local governments around the world (Mohamed and Manaf, 2020) including in Indonesia

Jambi City is one of 25 cities selected as a pilot city for the *smart city* trial in Indonesia. As a demonstration of this commitment, the Jambi city government issued Regional Regulation No. 1 of 2019 concerning *smart cities*, which was ratified on April 2, 2019. This regional regulation then serves as a foundation for all levels of the Jambi city government to realize a Jambi *smart city* in all dimensions.

In its development, the main intersection in the implementation of *smart cities* rests on indicators of *Smart Governance* (Pereira *et al.*, 2018). Pereira's research found that the capacity of local or city governments to implement *smart cities* ultimately lies in how a region is able to transform its organizational capacity to realize a *smart city*.

Smart governance is defined as the government's ability to make good decisions through information technology support and collaborative governance (Pereira *et al.*, 2018). *Smart governance* is also related to the use of technology and innovation to facilitate and support better decision-making and planning. This relates to improving the democratic process and changing the way public services are delivered (Ankur, 2019). *Smart governance* It also means the re-establishment of governance and governance processes across all local government organizations including all stakeholders involved (Scholl and Alawadhi, 2016).

Ideally, there are several fundamental aspects that must be present in the implementation *Smart Governance*, which is also a prerequisite for the creation of smart governance conditions, namely: collaboration from the *top - down* in public policy, excellent public services and efficient apparatus management with digitalization (Elisei and Prezioso, 2014). These three aspects are accommodated in the Jambi City Regional Regulation Number 1 of 2019 concerning Smart City which states that the focus of implementing smart governance in Jambi City includes public services, bureaucratic management and policy making.

In its application, although it is not directly depicted in planning documents such as the smart city development master plan, the city of Jambi already has an application that can then be said to support the principles *Smart Governance*. This is in line with Saadah's research (Saadah, 2021) which found that basically the Jambi city government has paid full attention to the implementation of *Smart Governance* Without them realizing it, efforts to transform digital government in Jambi City have shown the initial symptoms of implementation *Smart Governance* with the support of technological infrastructure.

The development of cities with smart cities is carried out, of course, by the adoption of Information Technology (IT) (Etezadzadeh, 2015). But in the end, the main focus in the development of smart cities in Jambi City is more on the emphasis on the use of applications as a form of digitization of public services and achievements *Smart Governance*. So it is not surprising that there is a misconception of what is needed to be a smart city, especially in this case in the aspect of governance (Easy *et al.*, 2019). This is still a challenge for most cities in Indonesia, including Jambi City.

It is important for the Jambi City government to first review what capacity needs to be possessed by the city before further developing the concept of *smart governance* to ultimately become *an enabler* in realizing the performance of the Jambi City Government to transform to realize the principles of smart governance in Jambi City in accordance with the ideals of regional regulations.

There are at least two things that cities must have to transform into a smart city (Nam and Pardo, 2011, 2014; Khan *et al.*, 2020) . First, the key role of public and private sector managers in adapting, integrating, and reconfiguring internal and external activities, resources, technologies, and competencies appropriately to suit the requirements of the changing environment. Then there is the need to understand which skills smart city managers need to enable smart city transformation. Second, it is necessary to have organizational readiness for innovation, namely related to whether and

to what extent an organization has the necessary characteristics that facilitate and encourage change and innovation. Basically, previous research has shown what are the readiness factors that support an organization's ability to innovate and change in general (Weiner, 2009; Lokuge *et al.*, 2019). A number of studies have been conducted on this subject, each highlighting similar factors that drive organizational innovation readiness. The most commonly reported factors include resource readiness, with a particular focus on financial, human, and technical resources, cultural readiness, strategic readiness, IT readiness, and managerial attitudes to change.

A lack of organizational capabilities is often a barrier to government performance in public sector modernization projects and causes them to fail to build and develop the capabilities necessary to effectively embrace the transformation of *smart city* governance. In this case, the author concludes from the elaboration of the background of the problem that the application of *smart governance* in the Jambi City government has not yet been optimal. Based on this background, this research will investigate the organizational readiness and *dynamic managerial capacity* of the Jambi city government in its transformation towards *smart governance* in Jambi City.

RESEARCH METHODS

This study applies a quantitative research method with multiple case studies, using an iterative research approach (iterative between theory and data) to obtain maximum data enrichment and provide a detailed understanding. Data collection employs research instruments and quantitative or statistical data analysis with the aim of testing hypotheses (Sugiyono, 2019). The population of this study comprises all ranks of the Jambi city government that implement functions and duties within the framework of *smart governance* in three aspects, namely excellent public services, bureaucratic management, and two-sided policymaking. The OPDs are the Jambi City Communication and Information Office, the Jambi City Population and Civil Registration Office, the Jambi City Regional Personnel and Human Resources Agency, the Jambi City Investment and One-Stop Integrated Services Office, and the Jambi City Planning and Development Agency. The data sources in this study were the Mayor and structural officials in the OPDs, with sample units taken comprising 31 respondents. The analysis techniques applied in this study include descriptive analysis and Partial Least Squares Structural Equation Modeling (PLS-SEM) analysis. According to Ramdhan (2021), descriptive analysis is an analysis of an ongoing phenomenon that involves descriptive data collection. Partial Least Squares (PLS) analysis is a multivariate statistical technique that compares many dependent variables with many independent variables. PLS-SEM is a SEM method that will be evaluated through the Inner Model and Outer Model. The Outer Model specifically explains the relationship between variables, both endogenous and exogenous, and existing variable indicators. Testing of the Outer Model results in values related to validity and reliability. The Inner Model explains the structural model used to predict causal relationships (cause-and-effect relationships) between latent variables—variables that cannot be measured directly.

RESULTS AND DISCUSSION

Inner and Outer Model Testing

In testing validity, the data needed is the cross loading value, where the cross loading value must be > 0.70 (Ghozali & Latan, 2015:74). In this study, the value of cross loading of the research model is as follows:

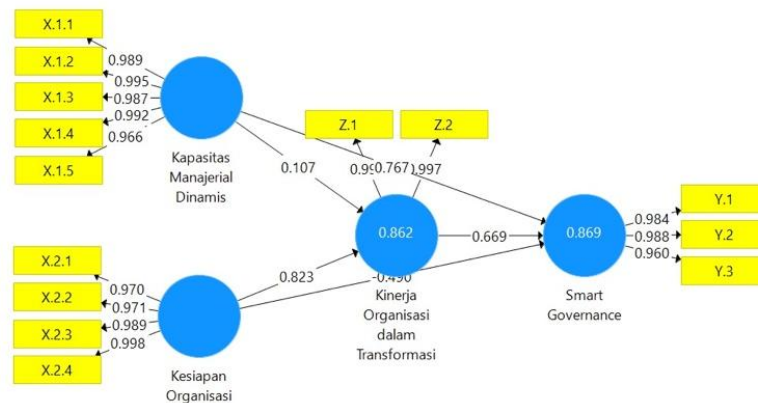


Figure 1. Research Analysis Model

Based on figure 1, it shows that the level of validity with *the discriminant validity* test is more than 0.70 and is declared valid. Furthermore, the good data reliability can be seen from the results of the Cronbach Alpha value test: > 0.7 and Rho_A: >0.7 (Vinzi, Trinchera, & Amato, 2010), then it can also be seen from the Composite Reliability value: >0.6 (Bagozzi and Yi, 1988; Chin & Dibbern, 2010), as well as Average Variance Extracted (AVE): > 0.5 (Fornell and Larcker, 1981; Bagozzi and Yi, 1988; Chin & Dibbern, 2010). The output of the SmartPLS research model gave the following results:

Table 1. Construct reliability and validity

Items	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Dynamic Managerial Capacity	0.993	0.993	0.994	0.972
Organizational Readiness	0.988	0.989	0.991	0.965
Organizational Performance in Transformation	0.994	0.994	0.997	0.994
Smart Governance	0.977	0.979	0.985	0.955

Source : Data processing with SmartPLS, 2024

Based on data processing, the results obtained in this research model are Cronbach Alpha: All variable constructs > 0.7; rho_A: All variables > 0.7; Composite Reliability: All variables >0.6; Average Variance Extracted (AVE) All variables >0.5. So that from the results of the construct reliability and validity test, it is categorized as good.

Furthermore, after the estimated model meets all *the Outer Model* criteria, then structural model *testing* (Inner model) *is carried out*. R-Square is a measure of the proportion of the variation in the value of the affected (endogenous) variable that can be explained by the variable that affects it (exogenous). This is useful for predicting whether the model is good/bad. The criteria: If the value of $R^2 = 0.75$ The Model is substantial (strong); If the value of $R^2 = 0.50$ the Model is moderate ; If the value of $R^2 = 0.25$ the Model is weak (bad). Here are the results of R-Square:

Table 2. R-Square Value

	R Square	R Square Adjusted
Organizational Performance in Transformation	0,863	0,853
Smart Governance	0,843	0,837

Source : Data processing with SmartPLS, 2024

R-square adjusted model line I = 0.852. This means that the variable ability of dynamic managerial capacity and organizational readiness to explain organizational performance in transformation is 85.2%, thus the model is relatively strong. R-Square Model Adjusted Line II = 0.854. This means that the variable ability of dynamic managerial capacity and organizational readiness to explain smart governance is 85.4%, thus the model is relatively strong.

Next, a Table test (F-Square) is carried out to assess the relative impact of an affecting variable (exogenous) on the affected variable (endogenous). The change in R2 values when certain exogenous variables are eliminated from the model, can be used to evaluate whether the omitted variables have a substantive impact on endogenous constructs. If the value of $f^2 = 0.02$ → A small effect of the exogenous variable on endogenous, If the value of $f^2 = 0.15$ → A moderate/moderate effect of the exogenous variable on the endogenous, If the value of $f^2 = 0.35$ → A large effect of the exogenous variable on the endogenous.

Table 3. F-Square

	Capacity Dynamic Managerial	Readiness Organization	Organizational Performance in Transformation	Smart Governance
Dynamic Managerial Capacity			0.003	0.134
Organizational Readiness			0.148	0.048
Organizational Performance in Transformation				0.469
Smart Governance				

Direct and Indirect Effect Testing

In this study, to test the direct influence of the influencing variable on the affected variable using direct effect analysis, where if the p-value < 0.05 is stated to have a direct or significant influence and if the p-value is > 0.05 it is stated that there is no direct or insignificant influence. Here are the SmartPLS output results:

Table 4. Path Coefficients

	Original Sample (O)	Sample Red (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Dynamic Managerial Capacity -> Organizational Performance in Transformation	0.107	0.096	0.433	0.248	0.805
Dynamic Managerial Capacity -> Smart Governance	0.767	0.880	0.503	1.524	0.128
Organizational Readiness -> Organizational Performance in Transformation	0.823	0.833	0.415	1.982	0.048
Organizational Readiness -> Smart Governance	-0.490	-0.341	0.369	1.327	0.185
Organizational Performance in Transformation -> Smart Governance	0.669	0.405	0.589	1.135	0.257

Source : Data processing with SmartPLS, 2024

Based on the *Path Coefficient* test and the assessment criteria, it is known that all path coefficient values are positive, so the hypothesis test can be concluded as follows:

1. Dynamic **Managerial Capacity** -> **Organizational Performance in Transformation**: Path coefficient=0.107 and P-Values=0.805 (>0.05), that is, the influence **of Dynamic Managerial Capacity on Organizational Performance in Transformation** is positive but not significant.
2. Dynamic Managerial Capacity -> Smart Governance: The path coefficient=0.767 and P-Values=0.128 (>0.05), that is, the influence of Dynamic Managerial Capacity on Smart Governance is positive but not significant.
3. Organizational Readiness -> Organizational Performance in Transformation: Path coefficient=0.823 and P-Values=0.048 (<0.05), that is, the influence of Organizational Readiness on Organizational Performance in Transformation is positive and significant.
4. Organizational Readiness -> Smart Governance: Path coefficient=-0.490 and P-Values=0.185 (>0.05), that is, the effect of Organizational Readiness on Smart Governance is negative and insignificant.
5. Organizational Performance **in Smart Governance Transformation** ->: Path coefficient=0.669 and P-Values=0.257 (>0.05), that is, **Organizational Performance in Smart Governance Transformation** is positive but not significant.

Furthermore, an indirect effect *analysis was carried out* to test the hypothesis of the indirect influence of an influencing variable (exogenous) on the affected variable (endogenous) which was mediated by an intervening variable (mediator variable).

Table 5 Specific Indirect Effects

	Original Sample (O)	Sample Red (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Dynamic Managerial Capacity -> Organizational Performance in the -> Transform Smart Governance	0.072	-0.084	0.315	0.228	0.820
Organizational Readiness -> Organizational Performance in the -> Transform Smart Governance	0.550	0.444	0.618	0.891	0.373

So, based on the *Specific Indirect Effects* test and the assessment criteria, the hypothesis testing can be concluded as follows:

1. The indirect influence **of Dynamic Managerial Capacity -> Organizational Performance in Transformation -> Smart Governance** is 0.072, with a P-Values of 0.820>0.05 (insignificant), then Organizational Performance does not mediate the influence of Dynamic Managerial Capacity on Organizational Performance in Transformation.
2. The indirect influence of Organizational Readiness -> Organizational Performance in Transformation -> Smart Governance is 0.550 with a P-Values of 0.373>0.05 (insignificant), then Organizational Performance does not mediate the influence of organizational readiness on Smart Governance in Transformation.

Implementation of Smart Governance in Jambi City

Referring to Cohen's smart city wheel, *Smart Governance* is a form of the government's ability to make good decisions and planning processes through information technology support and collaborative governance (Pereira *et al.*, 2018), the participation of all stakeholders in the policy process (Ankur, 2019) (Scholl and Alawadhi, 2016). Thus, the application of this dimension can ensure

collaboration from the *top - down* in public policy, excellent public services and efficient apparatus management (Elisei and Prezioso, 2014).

The Jambi City Government accommodates the concept of smart city by explicitly stating that the target of implementing smart governance in Jambi City includes aspects of public services, public policy processes and bureaucratic management (Saadah, 2021b). In addition, this effort has also been legalized in the Jambi City Regional Medium-Term Development Plan (RPJMD) for 2018-2023 which states that the Jambi City government is committed to strengthening bureaucracy and improving information technology-based community services.

The SPBE index of the Jambi City Government based on the results of monitoring and evaluation by the Ministry of PAN-RB in 2022, is 2.79 (good category). Although it has been included in the good category, this figure is said to be still below the Jambi City Government's RPJMD target 2018 - 2023. SPBE refers to Presidential Regulation Number 95 of 2018 concerning Electronic-Based Government Systems, which mandates that the implementation of government be carried out by utilizing information and communication technology. The implementation of SPBE is expected to improve governance so that it can achieve efficiency, integration, and sharing. In implementing SPBE, the government has established a National SPBE Coordination Team at both the national and regional levels.

In general, in the implementation of Smart cities, Jambi City received awards, including, the 2020 Nusantara Award Category (Best City in the Field of Technology and Innovative Regional Head for the Mayor of Jambi). Then, the 2020 Innovative Government Award (IGA) given by the Ministry of Home Affairs of the Republic of Indonesia (Kemendagri RI), Jambi City won an award for the Very Innovative City Category. This award needs to be confirmed, whether technology in public services provided by the government has really produced services that make it easier for the community.

In its implementation, Smart Governance in Jambi City is solely commanded by the Jambi City Communication and Information Service (diskominfo). *Smart governance* is carried out with an approach to the use of information technology. Various innovations summarized in the Acceleration Program (Quick Win) in the form of applications initiated by Diskominfo such as the public service applications SIPATEN (Integrated Sub-district Administrative Service Information System) and SIPADEK (Office Integrated Administrative Service System). Apart from the effectiveness of the application which requires a separate study, the perspective *of smart governance* development to improve the quality of public services by innovating the application itself requires further study.

At the beginning of the implementation of smart cities, the Jambi City government had a *City Operation Center* (COC) and became the first region in Sumatra to have one. COC has a control function that is integrated with other control functions for city monitoring. One of them is the monitoring of the city's traffic flow, as well as various other community service functions. The use of electronic ticketing or *Electronic Traffic Law Enforcement* in Jambi City in its use in Indonesia is the second city after DKI Jakarta to first implement the ticketing system. However, currently electronic traces are no longer running.

The implementation of government by utilizing information and communication technology is part of Quickwin Smart Governance which is one of the six aspects of Smart City that the Jambi City Government continues to develop. The Jambi City Government believes that the digitalization of government through SPBE is the spirit of the implementation of public services. One of the importance of SPBE is based on the needs of government services which currently have to be adaptive to information technology advancements.

Furthermore, the development of applications and information systems is also carried out by the Jambi City Government such as employee management information systems, performance

reporting, ASN management, education and training registration, and others. The system is still used as a data store, not yet used as a basis for decision-making as the purpose of bureaucratic management. In fact, technological transformation is expected to provide efficiency and effectiveness in employee management, including minimizing bureaucratic politicization.

Meanwhile, the use of information technology has not touched the aspect of the public policy process, even though the city government already has an e-musrenbang platform that has been used during the pandemic. This platform, although not optimal in accommodating aspirations to a certain level of decision-making, can be followed up as a pioneer of smart governance.

The Influence of Dynamic Managerial Capacity and Organizational Readiness in Smart Governance Transformation

Based on the results of the direct influence test above, it is known that dynamic managerial capacity has a positive effect on the implementation of *Smart Governance* in accordance with hypothesis 2 but does not have a significant influence. The transformation of government organizations in terms of *Smart Governance* is marked by the use of information technology in 3 aspects which will then result in changes in three indicators, namely the public policy process involving two sides of demand and supply, excellent public services and efficient bureaucratic management. These three aspects are believed to be influenced by the dynamic managerial capacity of city managers which consists of five dimensions, namely the capacity dimension to feel, achieve, innovate, integrate and empower. At the same time, the condition of the organization's readiness to transform will also affect the achievement of smart governance, namely readiness to innovate, change mindset, human resource support and readiness to develop and implement strategies. Then there are factors that mediate the two in influencing the achievement of smart governance, namely organizational performance in digital transformation.

Managerial skills are fundamental in supporting changes in local governments (Jameson, 2012). In the context of this research, managers in work units must be able to manage change, as well as develop strategies so that the change agenda can be achieved. In addition, organizational readiness is required in innovation, which is related to whether and to what extent an organization has the necessary characteristics that facilitate and encourage change and innovation. A number of studies have been conducted on this subject, each highlighting similar factors that drive organizational innovation readiness.

The Jambi City Government in implementing smart governance has demonstrated this capacity, because dynamic managerial capacity can encourage organizational adaptability and improve performance through competency and organizational resource management. This is in line with previous research that states that in adapting to change, organizations need the ability to accommodate change (Adner and Helfat, 2003; Sustainable *et al.*, 2021). A manager's satisfactory ability to manage change will result in trust in the leader which is a supporting factor (Bouckennooghe *et al.*, 2009) and affects the success of the change effort as a whole (Wave & Dulewicz, 2005). In addition, managers with DMC tend to be able to create innovative ideas and change initiatives (Gerulaitiene *et al.*, 2020), although these steps can be hampered by doubts from organizational components.

The results of the study also show that there is a negative and insignificant influence of Organizational Readiness on Organizational Performance, this does not prove the hypothesis. This indicates that basically, from various dimensions of readiness, the Jambi City Government has not been optimal. The author indicates that this is related to the uneven readiness for the implementation of SG in the Jambi City OPD.

First, to innovate, the government must have an open attitude to change and have the discretionary power to innovate. The transformation of SG in Jambi City as previously stated was initiated by Diskominfo from the beginning, other OPDs positioned themselves as users, so the possibility of wanting to innovate to welcome the transformation was small.

Second, the Jambi city government must have readiness in terms of resources, including in the aspects of finance, human resources and information technology support resources. Not all OPDs have balanced resources with diskominfo. In terms of budget, the Diskominfo has duties and functions, one of which is indeed in the field of information technology development, so of course there is a special budget for technology development and innovation.

Especially from the aspect of human resources, which of course not all OPDs have bureaucrats with the ability to identify opportunities for the use of information technology. Finally, from the aspect of technological support, which is much different, since the beginning of the diskominfo has had various prototype products to implement SG. So that in its development it will be easier and more directed, unlike other OPDs that require harder efforts because most of them have to start from scratch.

CONCLUSION

Based on the results of the research and discussion, it is evident that all achievement values for each dimension and indicator of the variables studied in this research—namely *Dynamic Managerial Capacity*, *Organizational Readiness*, *Organizational Performance*, and *Smart Governance*—are classified in the high category. Furthermore, *Dynamic Managerial Capacity* has a positive effect on *Smart Governance*; the better the *Dynamic Managerial Capacity*, the better the achievement of *Smart Governance* in Jambi City. Meanwhile, *Organizational Readiness* has a negative effect on *Smart Governance*—that is, *Organizational Readiness* does not contribute positively to the achievement of *Smart Governance* indicators.

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