

# Public Organization's Dynamic Managerial Capabilities on Digital Transformation

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## ABSTRACT

This study aims to analyse 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. Local governments do many things to achieve the demands of regional autonomy, regional development, especially with the use of information technology, ultimately leads to the concept of smart city with one of the indicators that becomes the main intersection is 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 149 managers which are directly implement the Smart Governance agenda. The results showed the achievement of smart governance in three aspects; 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.

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## 1. Introduction

The regional government has done many things to achieve the demands of Law Number 32 of 2004 to manage natural resources, human resources, and existing regional potential. The debate on regional development, especially with the use of information technology, has ultimately led to the concept of a smart city [1]. In recent years, the concept of a smart city has gained popularity and particular attention from regional governments around the world [2] including in Indonesia.

Jambi City is one of 25 cities selected as a pilot city for smart city trials in Indonesia. As a form of commitment, the Jambi city government issued Regional Regulation No. 1 of 2019 concerning smart cities which was ratified on April 2, 2019. This regulation was then used as a basis for all levels of the Jambi city government to realize Jambi smart city in all dimensions.

In its development, the main intersection in the implementation of smart cities rests on smart governance indicators[3].. Smart governance is defined as the government's ability to make good decisions through the support of information technology and collaborative

governance[3]. Smart Governance is about the use of technology and innovation to facilitate and support better decision-making and planning. This is related to improving the democratic process and changing the way public services are delivered [4].

Ideally, there are several basic aspects that must be present in the implementation of Smart Governance, which are also prerequisites for creating smart governance conditions, namely: top-down collaboration in public policy, excellent public services and efficient apparatus management with digitalization [5]. These three aspects are accommodated in 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 implementation, although not directly reflected in planning documents such as the smart city development master plan, Jambi City already has an application that can then be said to support the principles of smart governance. This is in line with Saadah's research [6] 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 early symptoms of implementing smart governance but have not optimally achieved the governance aspect.

Smart city and technology are an inseparable package. City development with smart city is of course carried out with the adoption of Information Technology (IT) [7]. However, in the end, the main focus in developing smart cities in Indonesia is more on emphasizing the use of applications as a form of digitalization of public services and achieving smart governance. A study conducted by Mahesa [8] on the effectiveness of smart cities in Indonesia shows how real public service applications are.

So it is not surprising that there are misconceptions about what is needed to become a smart city, especially in this case in terms of governance [9]. Mora further describes that a smart city must be able to provide sustainable solutions, spread technological advances to solve or reduce urban problems, strengthen the ability to adapt to a rapidly changing urban environment, and effectively serve people to meet their specific needs and demands. 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 capacities the city needs to have 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 a city must have to transform into a smart city [10]–[12]. First, there is a need to understand what skills smart city managers need to enable smart city transformation. Second, there needs to be organizational readiness for innovation, namely regarding whether and to what extent an organization has the necessary characteristics that facilitate and encourage change and innovation.

In the author's view, the dynamic capability theoretical lens provides a unique perspective to explore the managerial capabilities required for smart city transformation[13]. Previous research has shown what readiness factors support the ability of organizations to innovate and change in general umum [14], [15]. Both of these are very important, because the lack of organizational capabilities and managerial capacity is often a barrier to government performance in public sector modernization projects and causes them to fail to build and develop the capabilities needed to effectively embrace smart city transformation governance.

This paper will be structured by first reviewing the literature on smart governance through managerial capabilities and organizational readiness supported by organizational

performance in digital transformation. Next, the author will discuss the role of dynamic managerial capabilities and organizational readiness and the performance of government organizations in digital transformation and the smart governance framework. Finally, the author will outline the discussion, implications for research and practice as well as research limitations and recommendations for further research.

## 2. Method

### 2.1. Research Method

This paper aims to explore the role of dynamic managerial capabilities and organizational readiness and the performance of government organizations in digital transformation and smart governance frameworks. To answer the research questions, the researcher uses a quantitative descriptive-associative approach. This research is a type of research that can describe the relationship between each variable in the model [16] and find out and analyze the relationship or influence between the variables studied which consist of dynamic managerial capacity variables, organizational readiness, digital transformation performance and smart governance.

### 2.2. Population and Sampling

The population in this study was the entire ranks of the Jambi city government as many as 36 OPDs referring to Jambi City Regional Regulation No. 14 of 2016. The OPDs implement functions and duties within the framework of smart governance in three aspects, namely excellent public service, bureaucratic management and two-sided policy making. The data sources in this study were structural officials in 36 OPDs and Districts that implemented the smart governance concept, with a sample unit of 149 people as respondents.

Thus, the sampling technique used in this study was a stratified random sampling technique which is a deliberate multi-level sampling method to obtain data from managers according to their levels who are considered the most capable and representative in answering this research question. Determination of the sample was carried out in two stages according to the principle of stratified random sampling. First, the number of samples was determined using the following formula:

$$n = \text{number of indicators} \times 5$$

$$n = 27 \times 5$$

$$n = 135 + 10\%$$

$$n = 149$$

Next, to determine the number of samples from each category per OPD, the total population of each OPD is calculated, which is 413 people. This number is used as a reference to determine the sample from each OPD with the calculation  $n_i = n$  as follows:

$$n_i = \frac{N_i}{N} \cdot n$$

$$N$$

With the following provisions

$n_i$  = Number of sample members according to stratum

$n$  = total number of sample members

$N_i$  = number of population members according to stratum

$N$  = total number of population members

### 2.3. Teknik Analisis Data

This study uses descriptive statistical analysis techniques to see the picture of respondents' answers to statements, indicators and variables studied with the SEM PLS analysis tool. The descriptive analysis used is the frequency distribution and the average value of the answer score which will be interpreted into a continuum line. The average value obtained is then interpreted with the provisions of the continuum line obtained from the following calculations:

1. Minimum Index: 1
2. Maximum Index: 7
3. Number of Interval Classes: 5
4. Interval Distance:  $(5-1) / 4 = 0.80$

## 3. Results and Discussion

### 3.1. Smart Governance in Jambi City

The Jambi City Government has demonstrably embraced the principles of smart governance, as evidenced by their explicit commitment to integrating technology into public services, policy processes, and bureaucratic management. This commitment is further formalized within the Jambi City Medium-Term Regional Development Plan (RPJMD) for 2018-2023, which outlines the city's strategic objective to strengthen bureaucratic efficiency and enhance public service delivery through the utilization of information technology.

Despite these efforts, a discrepancy exists between the achieved outcomes and the stated objectives. While the Ministry of Administrative and Bureaucratic Reform (PAN-RB) awarded Jambi City a "good" rating of 2.79 on the Electronic-Based Government System (SPBE) Index in 2022, this score falls short of the target set in the RPJMD. It is crucial to note that the SPBE Index, as mandated by Presidential Regulation Number 95 of 2018, serves as a critical benchmark for assessing the effectiveness of government administration in leveraging information and communication technology to achieve efficiency, integration, and resource sharing. To facilitate SPBE implementation, a dedicated National SPBE Coordination Team has been established at both national and regional levels.

Furthermore, Jambi City has garnered recognition for its smart city initiatives, receiving accolades such as the 2020 Nusantara Award for "Best City in Technology and Innovative Regional Head" and the 2020 Innovative Government Award (IGA) from the Ministry of Home Affairs for the "Very Innovative City Category." However, these accolades necessitate critical evaluation to ascertain whether the implemented technologies have genuinely translated into tangible improvements in public service accessibility and efficiency for the community.

The implementation of Smart Governance in Jambi City is currently under the exclusive purview of the Jambi City Communication and Information Service (Diskominfo), with an approach centered on leveraging information technology. Diskominfo has spearheaded several initiatives within its Acceleration Program ("Quick Win"), including the development of applications such as SIPATEN (Sub-district Integrated Administrative Service Information System) and SIPADEK (Office Integrated Administrative Service System) aimed at enhancing public service delivery. While the efficacy of these applications warrants further investigation, a comprehensive analysis of the role of such technological innovations in advancing smart governance and improving public service quality remains a critical area for future research.

In its initial foray into smart city development, the Jambi City government established a City Operation Center (COC), becoming the first region in Sumatra to do so. This COC

serves as an integrated control hub for city monitoring, encompassing functions such as traffic flow management and oversight of various public services. Notably, Jambi City was also among the pioneers in Indonesia in implementing Electronic Traffic Law Enforcement (e-ticketing), following in the footsteps of DKI Jakarta. However, this system is currently defunct, underscoring the challenges associated with sustaining smart city initiatives.

The Jambi City Government has strategically prioritized the integration of information and communication technology (ICT) into its administrative processes, positioning it as a key component of the Quickwin Smart Governance initiative within the broader framework of its Smart City development. This strategic emphasis aligns with the government's recognition of Electronic-Based Government Systems (SPBE) as a cornerstone of effective and responsive public service delivery. The imperative for SPBE implementation arises from the increasing need for government services to adapt and respond to the rapid advancements in information technology.

To this end, the Jambi City Government has undertaken the development of a range of applications and information systems, encompassing critical domains such as employee management, performance reporting, civil servant (ASN) administration, education and training registration, and other essential administrative functions. However, a critical analysis reveals that the current utilization of these systems remains largely confined to data storage, failing to fully capitalize on their potential to inform and enhance decision-making processes within the broader context of bureaucratic management. This presents a significant opportunity for the city government to leverage technological transformation to achieve greater efficiency and effectiveness in employee management, including the potential to mitigate bureaucratic politicization.

Furthermore, while the city government has demonstrated a commitment to ICT integration in certain administrative functions, its application in the public policy process remains limited, despite the existence of an e-musrenbang platform introduced during the pandemic. While this platform has yet to reach its full potential in facilitating citizen participation and incorporating public input into decision-making, it represents a promising foundation for future development and serves as a pioneering initiative in the pursuit of smart governance.

The intricate relationship between smart city development and technological integration is undeniable *terpisahkan* [7], constituting an inseparable pairing in contemporary urban governance (Etezadzadeh, 2015). Consequently, the prevailing focus in Indonesian smart city initiatives leans heavily towards the utilization of technological applications. However, the successful implementation of Smart Governance, a mandate for all Regional Government Organizations (OPDs), necessitates a more profound transformation. This transformation encompasses not only the adoption of new technologies but also a fundamental shift in mindset, work culture, and operational paradigms to effectively address evolving public demands.

A critical factor in navigating this transformative process is the prevailing attitude towards change within the organization. Leaders and managers within OPDs, as key agents of change, are uniquely positioned to influence the organizational response to these dynamic shifts. Their ability to embrace and champion innovation, foster a culture of adaptability, and effectively communicate the benefits of these changes to their teams will ultimately determine the success of Smart Governance initiatives.

### 3.2. The Influence of Dynamic Managerial Capacity on Organizational Performance in Jambi City Government

The transformation of government organizations towards Smart Governance is characterized by the strategic integration of information technology across three core aspects: the public policy process, public service delivery, and bureaucratic management. This integration is expected to yield improvements across corresponding indicators, namely enhanced citizen engagement in policy formulation, elevated service quality, and increased efficiency in administrative processes. These three aspects are intrinsically linked to the dynamic managerial capacity of city leaders, encompassing five key dimensions: the capacity to sense, achieve, innovate, integrate, and empower. Concurrently, the organization's readiness to embrace transformation, as evidenced by its capacity for innovation, mindset adaptation, human resource support, and strategic planning and execution, plays a crucial role in the successful realization of Smart Governance. Furthermore, organizational performance in digital transformation acts as a mediating factor, influencing the overall effectiveness of these initiatives.

Managerial ability is fundamental in driving and sustaining organizational change within regional governments [17]. In this context, leaders within government work units must possess the capacity to not only manage change effectively but also to formulate and implement strategies that facilitate the achievement of transformation goals. This study identifies five key dimensions of managerial capacity critical to this process.

The first dimension, the capacity to *sense*, encompasses the ability to identify and respond to challenges and opportunities relevant to Smart Governance development. In the case of Jambi City, the Communication and Information Service (Diskominfo), spearheaded by the then-mayor, demonstrated this capacity by recognizing the potential of smart city development and translating it into actionable initiatives, including the prioritization of Smart Governance. This proactive approach highlights the crucial role of leadership vision in initiating and driving transformative change.

This capacity to sense also extends to identifying and learning from best practices. Diskominfo's efforts to benchmark against other cities, despite encountering challenges in information sharing, underscores the importance of continuous learning and knowledge acquisition in navigating the complexities of Smart Governance implementation. Furthermore, Diskominfo's proactive engagement with the Ministry of Information and Communication (Kominfo) and subsequent development of a smart city master plan exemplifies the significance of collaboration and external partnerships in driving successful Smart City initiatives.

The second dimension, the capacity to *achieve*, is evident in the Jambi City government's efforts to foster innovation within OPDs, encouraging the development of technology-driven solutions aligned with their respective functions. Initiatives such as the OPD innovation competition, which yielded innovations like the SIBANGMAN application developed by the Jambi City Bappeda, illustrate the city's commitment to promoting a culture of innovation and leveraging technology to enhance public services and bureaucratic management.

This application contributes significantly to the Jambi City Government's capacity for program management, facilitating the mapping of programs, activities, sub-activities, targets, and budget allocation and realization across the six National Priority Programs. Moreover, it enhances the efficiency and effectiveness of stakeholders, particularly Bappeda, in fulfilling their mandate as coordinators for reporting on national development issues. In the realm of human resource management, the Regional Human Resources Development and Personnel Agency (BKPSDMD) has introduced the Sipendol Innovation (Online Training Registration Information System). This application streamlines access to

information on government-provided training and education opportunities for employees within the Jambi City Government.

Beyond the mere creation of applications, the third dimension of managerial capacity, the ability to *innovate*, emphasizes the transformation of bureaucratic processes through technology. Applications like Silancar, a digital correspondence platform, exemplify this transformative potential, revolutionizing traditional workflows, particularly in correspondence and archiving. This shift towards digitalization has significantly reduced reliance on paper-based documentation, enhancing efficiency and streamlining administrative processes.

However, this dimension also necessitates a critical examination of the source and purpose of innovation. While initiatives such as the innovation competition encourage creativity within OPDs, the reliance on third-party developers raises concerns about the authenticity and relevance of these innovations. Ideally, innovation should be driven by internal needs and a genuine desire to address practical challenges within OPD functions, rather than solely for competitive purposes.

The fourth dimension, the ability to *integrate*, underscores the importance of collaboration and teamwork. While OPDs routinely conduct training on application usage, fostering collaboration with service users, including the public, the business sector, and internal government stakeholders, is crucial in ensuring the relevance and effectiveness of these applications. Active user engagement in the development process can lead to more user-centric solutions that effectively address their needs.

The fifth dimension, the ability to *empower*, focuses on enabling both government employees and citizens to utilize digital services effectively. However, low application download rates suggest a need for improved socialization, enhanced digital service quality, and continuous feature updates to align with evolving needs and technological advancements.

The Jambi City Government's successful implementation of Smart Governance hinges on these managerial capacities. Effective leadership, capable of fostering organizational adaptability and performance through competency management and resource optimization, is essential. This aligns with existing research emphasizing the importance of organizational change management capacity [18], [19]. A manager's ability to navigate change effectively cultivates trust and confidence, contributing significantly to the success of transformation initiatives. Furthermore, dynamic managerial capacity fosters innovation and change initiatives[20], although these endeavors may encounter resistance from within the organization

### **3.3. The Influence of Organizational Readiness on Organizational Performance in Jambi City Government**

Organizational readiness plays a pivotal role in fostering innovation, signifying the extent to which an organization possesses the requisite characteristics to facilitate and embrace change. Extensive research has identified several key factors contributing to organizational readiness for innovation, including resource availability (financial, human, and technical), cultural receptiveness, strategic alignment, IT infrastructure, and managerial attitudes towards change.

Contrary to expectations, the study revealed a negative and insignificant relationship between organizational readiness and organizational performance, thus failing to support the initial hypothesis. This finding suggests that the Jambi City Government, despite its efforts, has not yet achieved optimal readiness across various dimensions for the implementation of Smart Governance. This suboptimal readiness can be attributed to several factors, primarily the uneven distribution of readiness across different OPDs.

Firstly, a proactive and innovative approach necessitates an organizational culture that is receptive to change and empowers employees to experiment and take risks. However, the initial impetus for Smart Governance in Jambi City originated primarily from Diskominfo, with other OPDs assuming a more passive role as users. This limited ownership and agency may hinder the development of a widespread culture of innovation within the government.

Secondly, resource availability, encompassing financial, human, and technological resources, is crucial for supporting innovation. However, disparities exist between Diskominfo and other OPDs in terms of budget allocation, personnel with IT expertise, and access to technological infrastructure. This uneven distribution of resources may create barriers to innovation for OPDs with limited capacity.

Thirdly, and perhaps most importantly, organizational readiness hinges on a mindset that embraces change and recognizes the transformative potential of technology. A proactive and innovative mindset is essential for leveraging technology to enhance public services and bureaucratic efficiency. However, OPDs entrenched in routine, traditional workflows may lack this forward-thinking perspective. To address this, the establishment of dedicated innovation units within each OPD could foster a culture of innovation and facilitate the integration of technology into their operations.

In addition, a mindset that prioritizes efficiency will encourage the government to adopt technology such as process automation, data management systems, and online-based applications to speed up administrative processes and provide more responsive services. In the policy-making process that has been top-down, the government must have a progressive mindset to support community involvement in the decision-making process and public services. Technology can be used to facilitate public participation through online platforms, social networks, or online surveys. This creates a mindset based on involvement and transparency in the provision of public services.

Then, in the bottom-up public policy process, an inclusive mindset that pays attention to the needs and accessibility of all citizens in receiving public services is also very necessary. This is because the application of technology, such as the development of user-friendly mobile applications or web portals, can increase the accessibility of public services for those who live in remote areas or have physical limitations.

In this dimension, it is also represented by the existence of a balanced inter-government network in terms of collaboration. This is what the author thinks is still weak in the Jambi city government. OPDs in Jambi City have their own goals according to their duties and sectoral interests. In fact, the development of SG really needs cooperation and collaboration between OPDs. In fact, cohesion of goals between government organizations in a city is very important to achieve effectiveness and efficiency in the implementation of government and public services. Government organizations in the city of Jambi can work together to develop a vision and mission at a work meeting at the beginning of the year, or a work meeting to determine the city's vision and mission. The determination of a shared vision should reflect shared aspirations in improving the quality of life of citizens and the development of the city of Jambi in the implementation of smart governance as a whole. Fourth, the Jambi city government must be ready in terms of implementation strategy, marked by a clear vision and mission in realizing SG, manifested in a roadmap or action plan. A clear vision and mission are very important in realizing Smart Governance. Vision is a picture of the desired future, while the mission is the concrete steps to achieve that vision. With a clear vision and mission, the government can direct all efforts and policies towards achieving the goals of Smart Governance. In addition to the vision and mission, the roadmap or action plan is also an important instrument. The roadmap will compile specific steps, implementation time, and those responsible for each step in achieving the Smart Governance vision. A good action plan will ensure that the government not only has a big vision, but also a concrete strategy to make it happen.



Furthermore, a mindset that prioritizes efficiency encourages the adoption of technology to streamline administrative processes and enhance service delivery. This can manifest in the implementation of process automation, data management systems, and online applications, enabling faster processing times and improved responsiveness to citizen needs. In the traditionally top-down policy-making process, a progressive mindset is crucial for fostering citizen engagement and participation. Technology can facilitate this by providing platforms for online consultations, social media dialogues, and digital surveys, promoting transparency and inclusivity in public decision-making.

Conversely, in bottom-up policy formulation, an inclusive mindset that prioritizes the needs and accessibility of all citizens is paramount. Technology can play a crucial role in bridging gaps in service accessibility, particularly for marginalized communities and individuals with disabilities. User-friendly mobile applications and web portals can extend the reach of public services to remote areas and overcome physical barriers, ensuring equitable access for all.

However, the realization of Smart Governance also necessitates effective inter-organizational collaboration, a dimension where the Jambi City Government currently faces challenges. The tendency of OPDs to operate in silos, prioritizing their own sectoral goals and interests, can hinder the integrated and holistic approach required for successful Smart Governance implementation. Building a cohesive network of government organizations with a shared vision and collaborative spirit is essential for achieving synergistic outcomes.

This can be facilitated through initiatives such as joint workshops and strategic planning sessions, where OPDs collectively define a shared vision and mission for Smart Governance. This shared vision should prioritize the improvement of citizens' quality of life and the overall development of Jambi City within the framework of Smart Governance principles.

Finally, a well-defined implementation strategy, characterized by a clear vision, mission, and roadmap, is critical for translating aspirations into tangible outcomes. A compelling vision articulates the desired future state, while the mission outlines the concrete steps required to achieve it. A comprehensive roadmap or action plan provides a structured framework, outlining specific actions, timelines, and responsibilities for each stage of Smart Governance implementation. This ensures that the government not only possesses a clear vision but also a strategic and actionable plan to guide its realization.

#### **4. Conclusion**

The findings of this study indicate a positive correlation between Dynamic Managerial Capacity (DMC) and the successful implementation of Smart Governance in Jambi City. Conversely, Organizational Readiness demonstrated a negative impact on Smart Governance, suggesting that existing organizational structures and processes may not be conducive to supporting the technological and administrative changes required for effective Smart Governance implementation.

However, Organizational Readiness did exhibit a positive and significant influence on Organizational Performance in Transformation, highlighting the importance of preparing the organization for change to facilitate successful adaptation and digitalization. Moreover, Organizational Performance in Transformation positively and significantly impacted the achievement of Smart Governance goals, underscoring the crucial role of effective change management in driving successful outcomes.

These findings offer valuable insights for both government and community stakeholders. The positive influence of DMC on Smart Governance implementation reinforces the notion that dynamic leadership and managerial capabilities are crucial for navigating

organizational change and driving successful adoption of new technologies and processes. The negative impact of Organizational Readiness, however, reveals critical areas for improvement within the Jambi City Government. Specifically, it suggests a lack of preparedness for digital transformation, particularly in public service delivery, human resource management, and policy-making processes.

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#### Author contribution.

Abdul Muhaimin Elyusufi: Conceptualization, Methodology, Validation, Analysis, Writing – Original Draft Preparation, Writing–Review. Edi Suryadi: Conceptualization, Analysis, Writing–Review. Syamsul Hadi Senen: Writing–Review, Visualization. Rofi Rofaida : Validation, Analysis, Visualization, Methodology.

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