

Implementation of E-Government in Regional Administration of West Nusa Tenggara Province-Indonesia

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Abstract

The Electronic-Based Government System (SPBE), also known as E-Government, is a government administration that uses information and communication technology to provide services to SPBE/E-Government users. The implementation of SPBE/E-Government by both central and regional governments must align with integrated and coordinated principles, following the SPBE governance framework and management guidelines. This approach ensures that the implementation of SPBE is effective, efficient, sustainable, and able to provide high quality services for optimal public service delivery. This study uses an empirical juridical (non-doctrinal) approach conducted through empirical data processing (ex-post), intended to predict potential scenarios and forecast possible outcomes. This predictive ability offers valuable feedback on how to address actual interactions between administrative bodies and citizens related to SPBE/E-Government implementation. Moreover, the normative legal aspect is intended to change conditions (ex-ante) and, by analyzing positive legal materials, provides tangible solutions to societal issues in public service delivery through SPBE/E-Government. The results of the study found that, in principle, the West Nusa Tenggara (NTB) provincial government has successfully promoted increased adoption of SPBE/E-Government in public service delivery through the implementation of internal policies, governance, management, and SPBE/E-Government services. The evaluation of SPBE/E-Government innovation has also shown positive results, although some strengths and weaknesses persist.

Keywords: SPBE (E-Government); innovation; public service, regional administrative; NTB Province.

Introduction

Today's world has experienced rapid changes in a volatile, complex, and uncertain strategic environment in the VUCA era. The term VUCA (volatility, uncertainty, complexity, and ambiguity) describes conditions where circumstances are unpredictable due to rapid changes, making current models

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no longer considered capable of dealing with complexity and uncertainty (Mack et al., 2015). The VUCA condition was further exacerbated by the COVID-19 pandemic, which has impacted every aspect of life (Amalia, 2020). In response, governments must adapt and respond to these changes to tackle various issues quickly.

Public sector institutions must be able to adapt to the fast-paced demands of change. Environmental changes certainly change people's behavior to be more unpredictable. In today's highly mobile society, people are expected to resolve everything easily and quickly, especially concerning public services (Wardani, 2019). The trends and challenges in public services have become crucial aspects that need attention to create quality services for the community. Thus, the ability of public institutions is fundamental for public services to continue innovating and increasing competitive value. Various existing obstacles need to be addressed wisely and require concrete actions to overcome them. Policies related to public services must change, move dynamically following the times, advances in technology and information. The government must start to abandon the classic service concept towards electronic-based services.

New developments in Information and Communication Technology (ICT) in recent years have supported and enabled public institutions to deliver their services and information in new ways. Governments have to keep up with these new developments, especially with the rise of the E-Government concept, which enables government agencies to deliver services and information more optimally to their users—businesses, citizens, and government organizations—through the use of ICT (Anderson & Henriksen, 2006).

This approach improves service quality, reduces costs, saves time, and boosts efficiency and effectiveness in the public sector (Alshehri & Drew, 2011). Moreover, it helps governments achieve accountability, transparency, accuracy, accessibility, and high-quality standards in the delivery of public services and information (Alkhwaldi et al., 2018). Therefore, many countries have adopted e-Government, although the level of implementation varies among nations.

In the current era of globalization, it is no longer a new thing if advances in information technology and communication can promise efficiency, speed of information delivery, affordability, and transparency, including in government. Moreover, in the current era of regional autonomy, this is necessary to realize good governance by using information and communication technology or commonly called e-government. Through e-government too, improvement public services can be realized. The implementation of e-Government systems in many developing countries mainly aims to improve public sector services and deliver them efficiently and effectively. However, only a small portion of these are successful (Sarrayih & Sriram, 2015), as e-Government represents economic, technical, and social challenges (Signore et al., 2015), and often encounters various obstacles during its implementation. Moreover, governments adopting e-Government systems must also address organizational, cultural, social, technological, and political issues arising from the adoption of e-Government (Alshehri & Drew, 2011).

In today's fast-paced environment, the government must act dynamically to ensure high-quality governance. Government governance tends to change over time

in response to environmental changes, requiring a flexible approach to address it (Colm et al., 2020). The government needs to recognize the existing shortcomings in public services. Dynamic governance has increasingly been accepted as a relevant solution for current challenges. (Neo & Chen, 2007) define dynamic as the ability to incorporate new ideas and perspectives, pursue continuous improvement, respond swiftly, adapt flexibly, and foster creative innovations. Thus, the concept of dynamic governance can be defined as the government's ability to adapt policy formulation and implementation processes to achieve long-term goals (Rahmatunnisa, 2019).

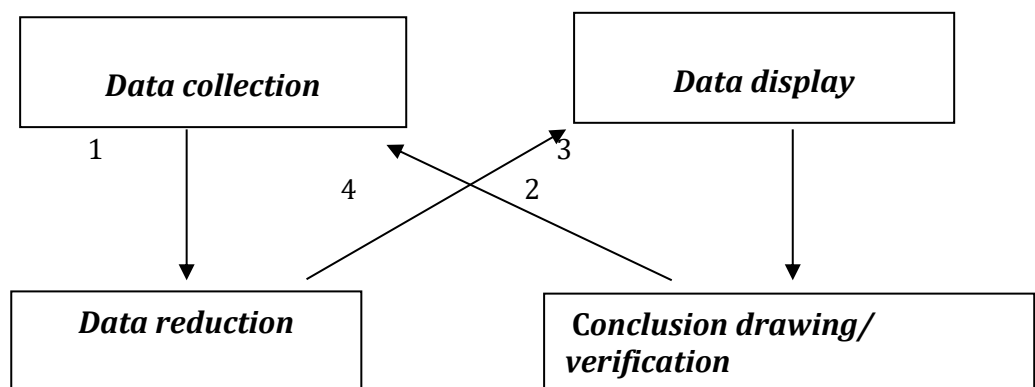
Given the central issue of e-Government implementation, this study aims to identify and analyze the implementation of e-Government in public service delivery, along with the various innovations introduced by the West Nusa Tenggara (NTB) provincial government in Indonesia.

Research Method

This study uses an empirical juridical method, which describes legal science within the framework of legal dogmatics (*das sollen*) and its practical implementation in concrete events (*das sein*). The doctrinal or normative approach includes a conceptual approach, statute approach, and case approach (Marzuki, 2011). The non-doctrinal or empirical approach, also known as empirical law research, examines unwritten positive law as it relates to the behaviors of members of society in social contexts. Empirical legal research aims to uncover "living law" within the community, as observed through societal actions (Purwati, 2009). An empirical legal research approach emphasizes the concept that law is not just written norms, not just abstract principles, and not just judges' decisions. The empirical legal approach emphasizes the concept of law as a pattern of behavior that creates order and justice.

The processing of empirical data (ex-post) has the ability to predict various possibilities that might occur. This ability provides feedback on how to control social processes. Meanwhile, the normative legal aspect aims to change conditions (ex-ante), and by analyzing positive legal materials, it provides tangible solutions to societal issues (Sulistyowati Irianto dan Shidarta, 2009). The research flow for this study can be outlined as follows:

Figure 1. The Research Flow



Source: processed by the Author

Results and Discussion

The Concept of Electronic-Based Government System (SPBE)/e-Government

In Indonesia, the term Electronic-Based Government System (SPBE) was introduced following Presidential Regulation Number 95 of 2018 concerning the Electronic-Based Government System and Ministerial Regulation of the Ministry of State Apparatus Empowerment and Bureaucratic Reform Number 5 of 2018 on the Evaluation of the Electronic-Based Government System. Previously, the use of Information and Communication Technology (ICT) in government operations was commonly referred to as e-Government, a term widely used in academic literature.

According to the OECD, as cited in (Montserrat, 2010), e-Government is defined as the use of Information and Communication Technology (ICT), particularly the Internet, as a tool to achieve better outcomes in government. Alternatively, more broadly, e-Government refers to the application of Information and Communication Technology (ICT) in public administration tasks and processes, aiming to reshape the relationships between government and citizens, government-to-government interactions, public service delivery, internal efficiency, and citizen participation. This broad definition of e-Government according to Batlle & Montserrat provides space for various sub-disciplines.

The information and communication technology (ICT) revolution has undoubtedly impacted every aspect of society, including the government sector. Computer and web-based technologies can effectively solve various existing government problems more quickly and easily. This understanding lies in rapid data processing technology features that enable communication of information to transcend beyond the constraints of time and space and various environmental changes requiring such features. This will certainly impact: maturity in democratic practices, opening opportunities for public official administration and authoritative government management to encounter public resistance; as a means of promoting citizen awareness, to raising the standard expectations for government services and service systems; following the Cold War era, global economic competition intensified, and governments shifted their focus towards supporting functions. Instead of controlling and monitoring business activities, they began to promote entrepreneurship and creativity; and as globalization trends are driven by computers and the internet, e-government is being promoted by the government in response to the evolution of a worldwide information community. The focus of governance is shifting from regulation, control, and formal procedures to an emphasis on outcomes and accountability.

E-Government, in its implementation, can be implemented in several forms (Kusnadi. *et al.* 2017) namely:

1. G2C (*Government to Citizens*). This form is commonly used in e-Government applications.
2. G2B (*Government to business*). This form is established by the government to define the scope of business activities, ensuring that the nation's economy functions effectively
3. G2G (*Government to Government*). This type facilitates interactions among government institutions.

E-Government serves as a good mechanism and effective platform for interaction between the government and citizens, the private sector, and between governments themselves. Services are designed using information and communication technology to ensure user satisfaction. Various indicators are employed to measure the quality of digital-based public services, such as:

1. Efficiency: the quality of information or services provided can be easily used.
2. Reliability: the reliability and speed of accessing, using, and receiving services
3. Trust: an indicator serves as a measure of a service site's credibility within the community or public, and its ability to safeguard against interference and protect personal information.
4. Community support: based on the level of assistance provided by the services to the community, which is related between the community and officials. (Putri Sekti Ari & Hanum, 2021):

Innovation in the Implementation of e-Government by the Provincial Government of West Nusa Tenggara (NTB) to Improve Public Services

The innovation in government digitalization as a commitment to accountability and integrity within the electronic-based government system (SPBE/e-Gov.), in providing basic services in the digital era, represents the integrity of the West Nusa Tenggara (NTB) Provincial government. This was initiated by forming an e-Government Committee. The innovation is facilitated through reliable government administrative documentation, encompassing planning, budgeting, implementation, monitoring, and evaluation, conducted within each regional apparatus organization (OPD). The strategic initiation of innovation is implemented by mapping into four categories: SPBE/e-Government governance, information and communication technology, SPBE services, and SPBE human resources. The mapping substance of the strategic initiatives of SPBE/e-government in NTB Province is outlined in the table below:

Table 1
The mapping of Strategic Initiatives of SPBE/e-Gov in NTB Province

Category	Strategic Initiatives
1. SPBE/e-Government Governance	a. Development of the SPBE/e-Government Master Plan and Architecture b. Establishing and Strengthening the SPBE/e-Government Coordination Team c. Enhancement of Internal Policies for SPBE/e-Government d. Implementation of SPBE/e-Government Management e. Evaluation of SPBE Implementation and ICT Auditing

2. Information and Communication Technology (ICT)	<ul style="list-style-type: none"> a. Enhancement of the Integrated Electronic Data Center b. Provision of Intra-Government Network c. Provision of Government Service Interconnection System d. Development of Regional Information Security System e. Development of Provincial Command Center
3. SPBE/E-Government Services	<ul style="list-style-type: none"> a. Development of Electronic-Based Government Administration Services b. Development of Electronic-Based Public Services c. Development of Electronic-Based Government Administration Service Portal d. Development of Electronic-Based Public Service Portal e. Implementation of Service Management f. Monitoring and Evaluation of SPBE/e-Government Services
4. ICT Human Resources Development	<ul style="list-style-type: none"> a. Promoting literacy in SPBE/e-Government. b. Developing capabilities of civil servants implementing SPBE/e-Government. c. Organizing a forum for SPBE collaboration between governmental and non-governmental entities.

Source: Field data analysis, July 2024.

The bureaucratic reform and public service that is related to innovation have been carefully examined to identify and address any existing obstacles. This investigation revealed instances of “human error” in coordination and administrative compliance. While these findings have been accepted with openness, all parties are determined and committed to doing their best, striving to move “from zero to hero.” Mistakes must not be repeated, and this became a particular focus during preparation for the Innovative Government Award (IGA) competition.

All Regional Apparatus Organizations (OPDs) have made significant progress after previously receiving a ‘disclaimer’ status by conducting a total evaluation under the strong control of the Governor and Vice Governor. As a result, they successfully improved their status from “disclaimer” to Unqualified Opinion (WTP).

Ongoing efforts are being made to address innovation challenges, particularly those resulting from human errors in coordination and administrative compliance. As part of this initiative, the Regional Research and Innovation Agency (BRIDA) of West Nusa Tenggara Province (NTB) was established. This institution, according to its main duties and functions, has been fully mandated to oversee the submission of innovations to the central jury of the IGA. Staff from the Research and Development Division of Bappeda have been transferred to BRIDA to oversee the IGA process.

The West Nusa Tenggara Provincial Government has been fully aware of creating innovation for quite some time. From 2014 - 2017, the NTB Provincial Government had a leading program known as eNTeBeNOVIK (NTB Public Service Innovation). This competition is designed to motivate civil servants and the general public to create innovations that benefit organizations or the community. Winning innovators received mentorship and support to participate in public service innovation competitions organized by the Ministry of State Apparatus Empowerment and Bureaucratic Reform (KemenPAN RB). Although the EntebeNOVIK initiative has since diminished, it remains highly relevant and could significantly enhance NTB's standing in the IGA competition if revived, particularly with the addition of an Innovation Expo. Reviving this initiative could strengthen NTB's standing, possibly ensuring a steady winning streak in the future.

In 2020, the West Nusa Tenggara Provincial Government submitted only three innovations, resulting in a ranking of 34th with a "Less Innovative" status. However, by 2021, the number of submissions increased significantly to 80 innovations, allowing the province to achieve 2nd place as a "Most Innovative and Highly Innovative Province." In 2022, West Nusa Tenggara submitted 129 innovations, securing 5th place while maintaining its status as a "Most Innovative and Highly Innovative Province." Statistically, there has been a consistent annual increase in the number of submitted innovations. In 2023, the NTB Provincial Government submitted 134 innovations: 30 focused on government affairs within regional jurisdiction, 93 innovations related to public services, and 11 innovations related to regional governance. Among these 134 innovations, seven were initiated by regional heads; eight by civil servants; 86 by Regional Apparatus Organizations (OPD); and 33 by the community. Regarding their type, 44 innovations were digital—such as NTB Mall—and 90 were non-digital, including initiatives like tourism villages. In the 2023 Innovative Government Award (IGA), NTB Province won six awards, including "Most Innovative Province" and "Highest Scoring Province" in Region IV.

SPBE/e-Government Evaluation in West Nusa Tenggara (NTB) Province in 2023

The evaluation of SPBE/e-Government focused on four domains: internal SPBE policy, SPBE governance, SPBE management, and SPBE services, where these four domains collectively consist of 47 indicators. Achieving all these indicators would be challenging without effective coordination among other Regional Government Apparatuses (OPDs). The NTB Provincial Government's Communication, Information, and Statistics Office (Diskominfo) serves as the leading sector in SPBE/e-Government implementation, though the achievements reflect collaborative efforts from multiple parties deserving recognition.

There are three important elements in implementing SPBE/e-Government in NTB Provincial government: government administration as an element of bureaucratic governance, the reliability of Information and Communication Technology (ICT) as an enabler in its implementation, and user-friendly government services tailored to their specific duties and functions. The complete evaluation results for SPBE/e-Government are presented in the table below.

Table 2
SPBE/e-Government Evaluation in West Nusa Tenggara (NTB) Province in 2023

Domain and Assessment Aspect	Weight	SPBE/e-Gov. Index Rating		
Domain 1 – SPBE Policy	13 %			
Aspect 1: SPBE Governance Internal Policy	13 %	No	INDEX SCORE	RATING
Domain 2 - SPBE Governance	25 %	1	4,2 – 5,0	Excellent
Aspect 2: <i>Strategic Planning</i>	10 %	2	3,5 – < 4,2	Very Good
Aspect 3: <i>Information and Communication Technology</i>	10 %	3	2,6 – < 3,5	Good *)
Aspect 4: <i>SPBE Implementation</i>	5 %	4	1,8 – < 2,6	Fair
		5	< 1,8	Poor
Domain 3 – SPBE Management	16,5 %	*) Assessment Target: “Good” Rating (minimum index 2,6). West Nusa Tenggara Province (NTB) = 3.4 (Good)		
Aspek 5 : <i>SPBE Management Implementation</i>	12 %			
Aspek 6 : <i>ICT Audit</i>	4,5 %			
Domain 4 - SPBE Services	45,5 %			
Aspect 7: <i>Electronic-Based Government Administration Services</i>	27,5%			
Aspect 7: <i>Public Services</i>	18 %			

Source: Ministry of State Apparatus Empowerment and Bureaucratic Reform, 2023.

Table 3
SPBE/e-Government Index Score, Domain, and Aspect

Index, Domain, and Aspect	Score 2023
SPBE/e-Government Index	3,4
SPBE/e-Government Policy Domain	3,10
Aspect: <i>SPBE/e-Government Governance Internal Policy</i>	3,10
SPBE/e-Government Governance Domain	2,90
Aspect : <i>SPBE/e-Government Strategic Planning</i>	2,75
Aspect: <i>Information and Communication Technology</i>	2,50
Aspect: <i>SPBE/--Gov. Implementation</i>	4,00
SPBE/e-Government Management Domain	2,36
Aspect: <i>SPBE/e-Gov. Management Implementation</i>	2,50
Aspect: <i>ICT Audit</i>	2,00
SPBE/e-Government Services Domain	4,13

<i>Aspect: Electronic-Based Government Administration Services</i>	4,10
<i>Aspect: Electronic-Based Public Services</i>	4,17

Source: Ministry of State Apparatus Empowerment and Bureaucratic Reform, 2023.

Strengths and Weaknesses *Electronic-Based Government Administration Services (SPBE/e-Gov.)*

Overall, the NTB Provincial Government has successfully implemented the Electronic-Based Government Administration Services. This includes the provision of various services, including Planning, Budgeting, Finance, Procurement of Goods and Services, Human Resources, Dynamic Archiving, Management of State/Regional Assets, Government Internal Supervision, Organizational Performance Accountability, and Employee Performance.

In this aspect, the availability of services such as Planning, Budgeting, Finance, Procurement of Goods and Services, Human Resources, Dynamic Archiving, Management of State/Regional Assets, Government Internal Supervision, Organizational Performance Accountability, and Employee Performance is a key strength in the implementation of SPBE by the NTB Provincial Government. There are currently no identified weaknesses in the Electronic-Based Government Administration Services in the NTB Provincial Government.

Strengths and Weaknesses *Electronic-Based Public Services*

Overall, the NTB Provincial Government has successfully implemented Electronic-Based Public Services, providing access to Public Service Complaints, Open Data, Documentation and Legal Information, as well as Public Information from Government Agencies. In this aspect, the availability of Public Service Complaints, Open Data, Documentation and Legal Information, as well as Public Information from Government Agencies is a significant strength of the NTB Provincial Government. There are no identified weaknesses in the Electronic-Based Public Services in the NTB Provincial Government.

Conclusion

Based on the findings and discussion presented, the implementation of electronic-based government (SPBE/E-Government) in West Nusa Tenggara Province (NTB) can be summarized as follows: in principle, the implementation of internal policies, governance, management, and SPBE services has led to an increased adoption of SPBE in the NTB Provincial Government. The evaluation results for the NTB Provincial Government indicate a 'Good' rating, scoring 3.4 in SPBE implementation, with several strengths (as advantages) and weaknesses.

The implementation of SPBE in the NTB Provincial Government excels particularly in the Electronic-Based Public Services aspect, achieving the highest index score of 4.17. This strength is highlighted by the integration with shared-use applications in the domain of Public Service Complaint Services.

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