

## INTEGRASI TEKNOLOGI DALAM PELAYANAN PUBLIK SEBAGAI UPAYA MENINGKATKAN RESILIENSI ORGANISASI PEMERINTAHAN DI INDONESIA

### *INTEGRATION OF TECHNOLOGY IN PUBLIC SERVICES AS AN EFFORT TO ENHANCE GOVERNMENT ORGANIZATIONAL RESILIENCE IN INDONESIA*

**Rudi Salam<sup>1</sup>, Asmar<sup>2</sup>, Sovia Rosalin<sup>3</sup>**

<sup>1</sup>Department of Administrative Science, Universitas Negeri Makassar, Indonesia

<sup>2</sup>Department of Accounting Education, Universitas Negeri Makassar, Indonesia

<sup>3</sup>Department of Administrative Science, Universitas Brawijaya, Indonesia

Email: rudisalam@unm.ac.id<sup>1</sup>

#### **ABSTRACT**

*Digital transformation has become a strategic necessity in strengthening the resilience of government organizations, especially in the face of health crises, natural disasters, and socio-economic pressures. This study aims to analyze how the integration of technology in public services contributes to enhancing organizational resilience in Indonesia's public sector. A qualitative approach was employed using a case study design focused on a government institution implementing Electronic-Based Government Systems (SPBE). Data collection techniques included in-depth interviews, policy document analysis, and participatory observation. The findings reveal that technological integration through SPBE and digital platforms has improved service continuity, enhanced institutional adaptive capacity, and fostered faster decision-making and cross-sectoral collaboration. However, challenges such as digital infrastructure disparities, uneven digital literacy, and fragmented policy coordination between central and local governments remain significant barriers. The study concludes that technology must be strategically positioned as a long-term component in building public sector resilience.*

**Keywords:** *Technology, Public Service, SPBE, Organizational Resilience, Government.*

#### **ABSTRAK**

Transformasi digital telah menjadi kebutuhan strategis dalam meningkatkan ketahanan organisasi pemerintah, khususnya dalam menghadapi tantangan seperti krisis kesehatan, bencana alam, dan tekanan sosial-ekonomi. Penelitian ini bertujuan untuk menganalisis bagaimana integrasi teknologi dalam pelayanan publik berkontribusi terhadap peningkatan resiliensi organisasi pemerintah di Indonesia. Penelitian ini menggunakan pendekatan kualitatif dengan desain studi kasus pada instansi pemerintah yang telah menerapkan Sistem Pemerintahan Berbasis Elektronik (SPBE). Teknik pengumpulan data dilakukan melalui wawancara mendalam, analisis dokumen kebijakan, dan observasi partisipatif. Hasil penelitian menunjukkan bahwa integrasi teknologi melalui SPBE dan platform digital telah meningkatkan keberlanjutan layanan, memperkuat kapasitas adaptif institusi, serta mempercepat pengambilan keputusan dan kolaborasi lintas sektor. Namun, tantangan berupa kesenjangan infrastruktur digital, literasi digital yang belum merata, serta kebijakan yang belum sinkron antara pusat dan daerah masih menjadi hambatan. Penelitian ini menegaskan bahwa teknologi perlu diposisikan sebagai komponen strategis dalam membangun resiliensi jangka panjang sektor publik.

**Kata kunci:** Teknologi, Pelayanan Publik, SPBE, Resiliensi Organisasi, Pemerintah

## **INTRODUCTION**

In the era of rapid digital transformation, the integration of technology into public service delivery has become a strategic necessity for enhancing the resilience of government organizations (Büyükoçkan et al., 2021; Crusoe et al., 2024; Hinings et al., 2018; Huang et al., 2025). Across the globe, governments are being challenged to innovate amidst crises such as pandemics, climate change, and global economic fluctuations. In Indonesia, these challenges are intensified by geographical, demographic, and administrative complexities that demand more agile, responsive, and citizen-centric governance. The Indonesian government has responded by initiating reforms through the implementation of Electronic-Based Government Systems (Sistem Pemerintahan Berbasis Elektronik/SPBE), which aim to create a more integrated, efficient, and transparent public administration (Kementerian PANRB, 2021).

Technological integration into public services serves multiple purposes: it streamlines bureaucratic processes, minimizes inefficiencies, and reduces the potential for corruption. At the same time, it facilitates real-time data management, enhances service delivery speed, and improves communication both internally among government agencies and externally with citizens (Ivanova et al., 2021; Mai et al., 2023; Mishra et al., 2021; Pariyasiri, 2022). As public expectations rise and resources remain limited, technology becomes a critical tool for maintaining service continuity and institutional performance during emergencies and disruptions. Therefore, technological integration is no longer viewed as an option but as an essential element of building organizational resilience within government institutions (Jia, 2024; Weerakkody et al., 2016).

Despite its promising potential, the implementation of digital technologies

in public services in Indonesia still faces significant barriers. These include uneven digital infrastructure across regions, disparities in digital literacy among civil servants, and a lack of inter-agency coordination. According to OECD (2021), digital transformation efforts in Indonesia are fragmented, with varying levels of progress among ministries and local governments. Additionally, the tendency to treat digitalization as merely an administrative function rather than a strategic tool for resilience has hindered deeper institutional change. As such, many digital initiatives fail to be sustainable or fail to reach their full impact on organizational resilience.

While numerous studies have examined digital transformation and e-government development in Indonesia, few have specifically analyzed the integration of technology from the perspective of organizational resilience. Most existing literature tends to focus on efficiency, transparency, or citizen satisfaction (Niu, 2022; Profiroiu et al., 2024; Troshani et al., 2018), but there is a lack of in-depth research that explores how technology directly contributes to the adaptability and robustness of government institutions in the face of uncertainty. This presents a critical research gap, especially given the increasing frequency and severity of crises affecting public administration.

Therefore, this study seeks to bridge that gap by exploring how the integration of technology in public services contributes to enhancing government organizational resilience in Indonesia. It aims to examine both the enabling factors and challenges in this integration process, with a particular focus on institutional capacity, cross-sectoral collaboration, and regional disparities. By addressing this underexplored intersection between digital governance and organizational resilience, the study aspires to contribute to more adaptive, future-ready public administration in Indonesia.

## **METHOD**

This study employs a qualitative research approach with a case study design to explore how the integration of technology in public services contributes to strengthening government organizational resilience in Indonesia. The qualitative approach is considered appropriate as it enables an in-depth understanding of complex organizational dynamics, stakeholder interactions, and contextual challenges that are not easily captured through quantitative methods (Creswell & Clark, 2017).

The unit of analysis in this research focuses on selected government institutions that have actively implemented Electronic-Based Government Systems (SPBE) and other digital innovations in their public service delivery. These institutions are chosen based on their level of digital maturity, strategic role in public administration, and relevance to national digital transformation policies. Primary data will be collected through semi-structured interviews with key informants, including government officials, IT personnel, policy makers, and public service users. These interviews aim to uncover perceptions, experiences, and practices related to digital integration and organizational resilience.

In addition to interviews, this research will utilize document analysis to examine relevant policy documents, official reports, digital strategy frameworks, and SPBE evaluation results. This triangulation of data sources is expected to enhance the validity and credibility of the findings (Patton, 2005). Observations may also be conducted, particularly in digital service units or command centers, to capture the implementation practices and technological infrastructure in action.

The data collected will be analyzed using thematic analysis, which allows the researcher to identify patterns, categories, and themes related to the role of technology in building organizational resilience. Thematic coding

will be conducted manually and assisted by qualitative data analysis software (e.g., NVivo or Atlas.ti) to ensure a systematic and organized analytical process. The analysis will be guided by the theoretical framework of organizational resilience and digital governance.

## **RESULT AND DISCUSSION**

The findings of this study reveal that the integration of technology into public service delivery has significantly contributed to enhancing government organizational resilience in the case study institution—namely, the Department of Communication and Informatics (Diskominfo) of City South Sulawesi. This contribution is evident in three main aspects: continuity of service, adaptive capacity, and institutional learning.

### **1. Service Continuity During Crisis**

One of the most prominent findings is that digital infrastructure enabled the local government to maintain public services during periods of disruption, particularly during the COVID-19 pandemic. The use of online platforms, cloud-based data management systems, and e-office applications allowed administrative tasks to continue without the need for physical presence. According to several informants, the implementation of the Sistem Pemerintahan Berbasis Elektronik (SPBE) provided a centralized framework that helped prevent operational breakdowns. For example, civil registration services were migrated online through a digital queue and application system, reducing physical contact while increasing service accessibility.

### **2. Adaptive Capacity and Responsiveness**

Technology also enhanced the institution's capacity to respond quickly to changing public needs and external pressures. Through real-time data dashboards and integrated complaint-handling systems, decision-makers were able to detect service delays, respond to citizen

complaints, and monitor performance indicators more effectively. As noted by one official, “We no longer wait for monthly reports—now we can see what’s happening in real time and act accordingly.” This responsiveness improved the institution’s credibility and reduced public dissatisfaction, especially during emergency situations.

### **3. Internal Collaboration and Knowledge Sharing**

The study also found that digital integration fostered better coordination across departments. Shared platforms such as the e-Government portal and centralized communication tools facilitated inter-departmental collaboration, which was crucial for implementing cross-sectoral responses. Additionally, training programs on digital tools increased the digital literacy of staff, although challenges remain among senior officials who are less familiar with technological systems. Nonetheless, the institutional culture began to shift toward continuous learning and innovation, which are key components of organizational resilience.

### **4. Challenges in Implementation**

Despite these improvements, several challenges were identified. First, digital inequality remains an issue—both in terms of internet infrastructure in remote areas and the varying levels of digital literacy among civil servants. Second, budget constraints often limit the full implementation of sophisticated digital tools, leading to partial integration or reliance on outdated systems. Third, a lack of synergy between national and regional digital policies sometimes causes overlapping programs and confusion in execution. These challenges highlight that while technology offers resilience potential, its impact is mediated by broader governance and institutional factors.

Overall, the study indicates that the integration of technology into public services—when supported by strong leadership, digital infrastructure, and human resource readiness—can significantly strengthen government resilience. However, to achieve sustainable outcomes, it is necessary to address systemic gaps and ensure inclusive digital transformation across all levels of government.

### **Discussion**

The results of this study confirm that the integration of technology into public services serves as a crucial enabler of government organizational resilience, particularly in the face of crisis and uncertainty. In line with Mergel et al. (2019), the use of digital platforms and real-time systems has increased the ability of government institutions to absorb shocks, adapt to changing demands, and maintain service delivery with minimal disruption. The findings also resonate with (Anggraeni, 2016; Ohemeng et al., 2019) different strategies continue to be developed to enhance employee engagement (EE, who emphasized the role of technology in transforming bureaucratic processes into more flexible and responsive systems.

One of the key insights from this research is that digital transformation goes beyond the mere digitization of services—it requires a paradigm shift in how public institutions operate, collaborate, and engage with citizens. The evidence from the case study demonstrates that institutions that actively adopt SPBE and utilize integrated service platforms are better positioned to respond to emergencies and dynamic policy environments. This supports the notion that organizational resilience is not only a product of infrastructure and tools but also of leadership, agility, and institutional learning.

However, the findings also highlight persistent challenges in achieving equitable and sustainable digital integration. These include disparities in infrastructure and digital skills,

particularly between urban and rural areas and between younger and senior civil servants. These gaps align with the concerns raised by (Maswati, 2023), which noted that the uneven pace of digital adoption across government entities can undermine the overall effectiveness of public sector reform. Moreover, the issue of fragmented digital governance—where national and regional systems are not always aligned—emphasizes the need for greater policy coherence and interoperability.

From a theoretical perspective, this study enriches the understanding of organizational resilience by positioning technology as both a structural and cultural factor. Structurally, digital systems provide the tools for real-time decision-making, data management, and remote service delivery. Culturally, the shift toward digital governance fosters a mindset of adaptability, continuous learning, and innovation. These dimensions are interdependent and suggest that successful digital integration must be holistic, involving changes in both systems and organizational behavior.

Ultimately, this study fills a research gap by focusing not only on the outcomes of digital transformation—such as efficiency and transparency—but also on its contribution to long-term resilience. As such, it offers a new perspective for policy makers and public administrators in Indonesia: to view technology not just as a tool for modernization, but as a strategic asset for institutional survival and renewal. Future research could further explore this connection across different levels of government and in various policy sectors to strengthen the empirical foundation of digital resilience in the Indonesian public sector.

## **CONCLUSION**

Through the implementation of electronic-based governance systems (SPBE) and the adoption of digital platforms, public institutions in Indonesia have demonstrated

improved capabilities in maintaining service continuity, adapting to crises, and responding effectively to citizen needs, as technology enables faster decision-making, greater transparency, and stronger inter-agency collaboration—key elements of organizational resilience. However, this integration process still faces significant challenges, including disparities in digital infrastructure, uneven digital literacy among civil servants, and fragmented policy implementation, which, if not addressed, may lead to deepened inequalities and unsustainable transformation. This study contributes by shifting the discourse from viewing technology solely as an efficiency tool to recognizing it as a strategic component of resilience, highlighting how digital transformation enhances an institution's ability to adapt, recover, and thrive amid uncertainty. Therefore, strengthening digital governance must be treated not only as a modernization agenda but also as a long-term investment in institutional resilience, with future studies encouraged to explore implementation variations across regions and compare digital maturity levels to identify best practices and capacity-building needs for a more inclusive and adaptive public sector.

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