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Digital Transformation Based on Information Systems to Improve Public Service Quality: A Qualitative Study in Pangkalpinang City

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ABSTRACT

Digital transformation has become a strategic priority in public sector reform, particularly in improving service quality and governance. This study aims to explore the role of information systems in enhancing public service quality in Pangkalpinang City using a qualitative approach. Data were collected through in-depth interviews, observation, and document analysis related to the implementation of Sistem Pemerintahan Berbasis Elektronik (SPBE). The findings indicate that system usability, service accessibility, and organizational readiness significantly influence service effectiveness. Furthermore, the study reveals that digital transformation improves transparency and promotes inclusive access to public services. However, challenges remain in system integration and digital literacy. This study contributes to the development of a conceptual model linking usability, accessibility, and institutional readiness to sustainable digital public services.

Keywords: *digital transformation, information systems, public service, SPBE, qualitative study*

I. INTRODUCTION

Digital transformation has fundamentally reshaped the structure and delivery of public services. Governments worldwide are increasingly leveraging information systems to enhance efficiency, improve transparency, and deliver higher-quality services to citizens (Vial, 2019). The integration of digital technologies enables public institutions to streamline administrative processes, reduce bureaucratic delays, and provide services that are more responsive to societal needs. In this context, digital transformation is not merely a technological shift, but a strategic reform that redefines governance, service delivery, and citizen engagement.

In Indonesia, digital transformation in the public sector is formally implemented through the Sistem Pemerintahan Berbasis Elektronik (SPBE). This framework aims to

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integrate digital services across government institutions, promote data sharing, and improve coordination between agencies. The implementation of SPBE reflects a broader commitment to building a digital government ecosystem that is efficient, transparent, and accountable. At the local level, including in Pangkalpinang City, digital transformation initiatives have begun to improve access to public services through online platforms and integrated systems.

However, despite these advancements, significant challenges remain. Many public service systems still experience issues related to low usability, limited accessibility, and weak integration between platforms (Mergel et al., 2019). Users often encounter difficulties navigating digital interfaces, while fragmented systems reduce efficiency and create redundancies in service delivery. In addition, disparities in digital literacy among citizens further limit the accessibility of digital services. These challenges highlight a critical gap between the potential of digital technologies and their actual impact on public service performance.

Previous studies have emphasized that the success of digital transformation depends on both technological and human factors. The DeLone and McLean IS Success Model identifies system quality, information quality, and service quality as key determinants of user satisfaction and system success. Meanwhile, the Technology Acceptance Model explains that perceived usefulness and ease of use significantly influence user acceptance of technology. These theoretical frameworks demonstrate that the effectiveness of digital transformation is closely linked to how users interact with and perceive information systems.

Nevertheless, most existing studies focus on quantitative evaluation, such as system performance metrics and statistical relationships between variables. While these approaches provide valuable insights, they often overlook the contextual and experiential dimensions of digital transformation, particularly at the local government level. There is limited research that explores how users experience digital services, how institutions adapt to technological changes, and how these factors interact in real-world settings.

This study addresses this gap by adopting a qualitative approach to examine the role of information systems in improving public service quality in Pangkalpinang City. The research focuses on three key dimensions: system usability, service accessibility, and organizational readiness. By capturing user experiences and institutional perspectives,

this study provides a more comprehensive understanding of digital transformation in practice. The findings are expected to contribute to the development of a more inclusive and sustainable digital public service model, particularly in the context of local governance.

II. MATERIALS AND METHODS

This study uses a qualitative case study approach to examine digital transformation in public services.

Data Collection

1. In-depth interviews with 8 informants (citizens and public service officers)
2. Direct observation of digital service platforms
3. Document analysis of SPBE implementation reports

Informants

1. Users of digital public services
2. Government staff managing the system
3. Technical administrators

Data Analysis

Data were analyzed using thematic analysis (Braun & Clarke, 2006), which includes:

1. Data reduction
2. Coding and categorization
3. Theme identification
4. Interpretation

III. RESULT AND DISCUSSION

This study identifies three major themes influencing public service quality in the context of digital transformation: system usability, service accessibility, and organizational readiness. These themes are interrelated and collectively determine the effectiveness and sustainability of digital public services.

System Usability

System usability emerges as a critical determinant of user experience and system adoption. Most informants emphasized the importance of simple, intuitive, and user-friendly interfaces. Systems with complex navigation structures, unclear menus, and inconsistent layouts significantly reduce efficiency and discourage repeated use.

“The system is helpful, but the menu is confusing for new users.” (Informant 2)

This finding indicates that usability is not merely a technical feature but a fundamental factor shaping user perception and behavior. Poor usability leads to cognitive overload, increases task completion time, and reduces trust in digital services.

From a theoretical perspective, this finding strongly aligns with the Technology Acceptance Model, which posits that perceived ease of use directly influences user acceptance. In this study, ease of use is reflected in interface clarity, navigation simplicity, and system responsiveness.

Furthermore, usability also affects service efficiency. Systems that are difficult to operate often result in incomplete transactions, repeated attempts, or fallback to manual services. This reduces the overall impact of digital transformation.

Service Accessibility

Digital transformation has significantly improved access to public services by enabling remote interaction, reducing physical visits, and increasing service availability. However, accessibility is not evenly distributed across user groups.

"It is faster now, but older users still struggle to use the system." (Informant 4)

This finding highlights that accessibility extends beyond system availability. It includes user capability, digital literacy, and socio-demographic factors. While younger and digitally literate users benefit from online services, other groups remain excluded.

This condition creates a phenomenon known as the "digital divide," where unequal access to technology leads to unequal service outcomes. In the context of public services, this contradicts the principle of inclusivity.

From a system perspective, accessibility must be supported by:

- User-friendly design
- Multi-channel service options (online and offline)
- Digital literacy programs

Without these supporting factors, digital transformation risks reinforcing existing inequalities rather than reducing them.

Organizational Readiness

Organizational readiness is identified as a key enabler of successful digital transformation. This includes institutional capacity, human resources, infrastructure, and system integration.

"We still face issues with system integration and staff training." (Informant 6)

The findings show that many institutions are still in a transitional phase. Systems are often implemented in isolation, resulting in fragmented services and duplicated

processes. In addition, limited training reduces staff capability to operate and manage digital systems effectively.

These results are consistent with the DeLone and McLean IS Success Model, which emphasizes that system quality and service quality determine overall success. Organizational readiness directly affects both dimensions.

Three critical components of readiness are identified:

- Technical readiness (infrastructure and system integration)
- Human readiness (skills and training)
- Managerial readiness (policy and leadership support)

Without alignment among these components, digital transformation initiatives may fail to achieve their intended outcomes.

Cross-Theme Analysis

The three themes identified in this study are not independent. They interact dynamically to shape the effectiveness of digital public services.

Table 1. Summary of Findings

Theme	Key Issue	Impact on Service Quality
System Usability	Complex interface	Low adoption and user dissatisfaction
Service Accessibility	Digital literacy gap	Unequal service access
Organizational Readiness	Lack of integration and training	Inefficient service delivery

Source: Research Data (2026)

This table shows that each factor contributes to service quality in a different way. However, their combined effect determines overall performance.

Conceptual Model Explanation

The results show that digital transformation is not purely a technological issue. It involves interaction between systems, users, and institutions.

These findings are consistent with prior research that highlights the importance of integrating technological and organizational factors in digital transformation (Verhoef et al., 2021).



Figure 1. Conceptual Model of Digital Public Service Transformation.

This model explains how different factors interact to influence the success of digital public services.

Despite the growing body of research on digital transformation, most studies primarily focus on quantitative evaluation and technological performance metrics. Limited attention has been given to qualitative insights, particularly at the local government level where contextual factors significantly influence implementation outcomes. This study addresses this gap by providing an in-depth qualitative analysis that captures user experiences, accessibility challenges, and institutional readiness in a real-world setting. Unlike previous studies that emphasize system efficiency, this research highlights the interaction between human, organizational, and technological dimensions. Therefore, this study contributes by offering a more holistic understanding of digital transformation, especially in the context of developing regions where digital maturity varies significantly.

IV. CONCLUSION

1. Information systems significantly improve public service quality
2. System usability influences user adoption and satisfaction
3. Accessibility determines inclusiveness of digital services
4. Organizational readiness is critical for sustainable implementation
5. Digital transformation enhances transparency and efficiency in public services.

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