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Change Management in Digital Transformation The South Tangerang City Government Agency

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Abstract
Purpose: This study aims to analyze the implementation of change management in supporting digital transformation within the South Tangerang City Government, particularly in the adoption of the Electronic-Based Government System (SPBE). The research evaluates how change management strategies address key challenges such as employee resistance, low digital literacy, and weak change management frameworks.
Methodology/Approach: A qualitative descriptive approach was employed, utilizing in-depth interviews with government officials, direct observations of SPBE implementation, and document analysis. The study assessed change management effectiveness based on leadership commitment, employee engagement, and institutional readiness.
Results/Findings: The findings reveal that change management has not been systematically implemented, leading to inefficiencies in digital transformation efforts. While some technological advancements have been achieved, persistent challenges include lack of structured organizational change models and insufficient transformational leadership to drive cultural and operational shifts.
Conclusions: South Tangerang's digital transformation has progressed technologically but is limited by employee resistance and low digital readiness. Strong leadership, user-focused systems, and ongoing capacity building are essential for sustainable governance.
Limitations: This study focuses solely on the South Tangerang City Government, which may limit the generalizability of findings to other regions. Additionally, the dynamic nature of digital transformation necessitates continuous evaluation beyond the scope of this research.
Contribution: The study offers practical guidance to strengthen digital transformation through structured change management, capacity building, and transformational leadership for sustainable public governance.

Keywords: *Change Management, Digital Transformation, Organizational Change, Public Sector Reform*

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1. Introduction

Digital transformation in the government sector has become inevitable in the era of the Fourth Industrial Revolution, where the demand for efficiency, transparency, and quality of public services continues to increase (Imran, Shahzad, Butt, & Kantola, 2021; Schneider & Kokshagina, 2021). The Government of Indonesia at the national level has actively promoted the implementation of the Electronic-Based Government System (SPBE) through Presidential Regulation No. 95 of 2018, with the aim of accelerating bureaucratic reform. However, the main challenge faced does not merely lie in technological aspects but rather in organizational readiness and the effectiveness of change management

in adopting digital transformation (Furr, Ozcan, & Eisenhardt, 2022; Hanelt, Bohnsack, Marz, & Antunes Marante, 2021).

South Tangerang City, as one of the buffer regions of the capital city, is experiencing rapid population growth and socioeconomic dynamics and faces significant demands in providing fast, accurate, and integrated public services (Fernandez-Vidal, Perotti, Gonzalez, & Gasco, 2022; Imran et al., 2021). In line with its development vision, the local government has initiated various digitalization programs, including the implementation of online service applications, digital-based licensing systems, public information portals, and inter-agency data integration systems. However, the implementation of digital transformation in the government environment does not depend solely on the provision of technological infrastructure; it also requires comprehensive change management to ensure the successful adoption and sustainability of these digital initiatives (Kraus et al., 2022).

Since 2021, several work units at the sub-district level in South Tangerang City have adopted digital services. Nevertheless, various obstacles still hinder the digitalization process, such as employee resistance to change, low levels of digital literacy, and weak coordination among the work units. Digital transformation in the government sector is not merely the introduction of new applications or information systems, but constitutes a comprehensive change encompassing work processes, organizational culture, communication patterns, and the enhancement of human resource competencies (Azzahra, Yuliansyah, & Nauli, 2021). Therefore, change management is a critical factor in determining the success of digital transformation, as this process touches upon the fundamental elements of government organizations (Farahani, Meier, & Wilke, 2016).

Based on Kotter (1996) Change Management theory, the success of organizational transformation requires eight strategic stages, starting from building a sense of urgency for change, forming a guiding coalition, creating a vision for change, and institutionalizing a new culture within the organization. Without systematic change management, the risks of employee resistance, low technology adoption, and failure to achieve bureaucratic reform targets will increase significantly. In the context of South Tangerang City, the challenges of implementing digital transformation can be identified in several ways. First, employee resistance arises from comfort with manual procedures and skepticism toward the effectiveness of digital systems. Second, there is a digital competency gap among public servants, where not all employees possess adequate technical skills. Third, limitations in infrastructure and inter-sectoral data integration, and fourth, a rigid bureaucratic work culture that hampers the flexibility of the digitalization process (Kraus et al., 2022).

Farahani et al. (2016) further reinforce that failures in digital transformation within the public sector are often not caused by the technology itself, but by weak change management, low employee involvement, and a lack of change leadership. Therefore, this study is important for identifying the extent to which the change process is managed in digital transformation within the Government of South Tangerang City, the supporting and inhibiting factors, and the strategies that can be optimized to ensure the success and sustainability of digital transformation (Kristiyono & Nurrosyidah, 2021). This study aims to analyze the implementation of change management in supporting digital transformation, identify constraints and organizational adaptation strategies, and provide recommendations based on structured organizational change models.

The success of digital transformation in South Tangerang City will not only have an impact on improving the quality of public services and bureaucratic efficiency, but also on regional competitiveness in facing development challenges in the digital era (Kirana, Saifudin, Mukhlisin, Fatmawati, & Ansori, 2023; Wahyudi et al., 2023). The findings of this study are expected to serve as a reference for local governments in designing effective change management strategies so that technological investments can provide optimal benefits for society (Darmansah et al., 2024; Meliana, 2025). Several studies have examined the technical aspects of SPBE implementation and digital transformation in the government sector; however, a significant academic gap remains in the context of change management.

For example, studies by (Azizah, Septiani, Halimah, Al Faqih, & Esthi, 2025; Priyatna, 2024) focus more on the evaluation of technological infrastructure readiness without deeply exploring the dynamics of organizational change. Similarly, studies by (Ani, Muti, & Meria, 2024; Elia, Solazzo, Lerro, Pigni, & Tucci, 2024) map the adoption of e-government applications in several regions but provide limited attention to the cultural and behavioral aspects of public officials as key determinants of success. This research gap becomes even more evident in the findings of (Bellantuono, Nuzzi, Pontrandolfo, & Scozzi, 2021; Soedjono, 2022) which indicate that 68% of digital transformation failures in local governments stem from non-technical factors, particularly organizational cultural resistance and the lack of transformational leadership, yet these studies do not present an operational framework to address these challenges.

This study is novel in that it develops an evaluation approach that integrates techno-managerial and socio-cultural perspectives in analyzing digital transformation. The study does not merely map the implementation gaps of SPBE but also constructs a conceptual framework that links Kotter's change management theory with the specific context of Indonesian bureaucracy, particularly within the setting of an urban local government such as South Tangerang City. Another aspect of novelty lies in the methodological approach, which combines policy analysis with organizational ethnography, allowing for a more holistic understanding of the interaction between formal regulations and informal practices in the change process. This study is also among the first to systematically associate the effectiveness of digital transformation with indicators of organizational adaptive capacity, a perspective that has become increasingly relevant in the context of accelerated digitalization in the post-pandemic era (Vial, 2019).

The theoretical contribution of this research lies in the development of a "Digital Government Transformation Framework," which extends Kotter's model by incorporating the contextual variables of the Indonesian bureaucracy. This model considers not only the linear stages of change but also specific factors such as hierarchical bureaucratic structures, work cultures that remain strongly rooted in manual procedures, and local political dynamics that influence technology adoption processes. Methodologically, this study provides an innovation by developing a measurement instrument capable of capturing both quantitative (levels of technology adoption) and qualitative (changes in mindset and work culture) aspects in an integrated manner (Nadkarni & Prügl, 2021).

At the practical level, the findings of this study offer applicable policy recommendations for local governments (Pradana & Putra, 2024). This study reveals the importance of a differentiated approach to change management, where interventions must be tailored to the characteristics of work units and levels of human resource readiness. Specific recommendations include the development of contextual training programs, the design of incentive schemes that encourage innovation, and strengthening the role of change agents at the middle management level. The findings also highlight the need for stronger feedback loop mechanisms between policymakers and end users, an aspect that has often been overlooked in SPBE implementation. More broadly, this study contributes to the achievement of the Sustainable Development Goals (SDGs), particularly Goal 16 on effective and accountable governance, by providing a framework to strengthen the institutional capacity of local governments to face digital disruption (Dąbrowska et al., 2022).

The policy implications of this study encompass three levels of intervention. At the macro level, alignment between digital transformation policies and more holistic bureaucratic reforms is required. At the meso level, strengthening institutional capacity by developing digital competency centers within local governments is crucial. Meanwhile, at the micro level, a human-centered design approach in the development of applications and systems needs to receive greater attention to increase user adoption. The experience of South Tangerang City presented in this study can serve as a valuable case study for other regions facing similar challenges, while also enriching the body of knowledge on change management in the public sector during the era of digital transformation. Thus, this study not only contributes academically but also functions as a bridge between theory and practice in efforts to realize inclusive and sustainable digital governance (Piccoli, Grover, & Rodriguez, 2024).

2. Literature Review and Hypothesis Development

2.1 Basic Concept of Change Management

Change management is a discipline that has developed in response to the organizational need to effectively manage transitions from current conditions to desired future states. Essentially, this concept does not merely focus on the technical aspects of change but places greater emphasis on the human dimension and organizational culture (Carrisa, Sukamto, & Arisdiyoto, 2025; Schneider & Kokshagina, 2021). The Prosci ADKAR model emphasizes that successful change requires a structured approach that considers the psychological and behavioral aspects of individuals within an organization. This approach acknowledges that resistance to change often arises not because of disagreement with the change itself but because of discomfort in facing uncertainty and the adaptation process required.

From a more strategic perspective, Kotter (1996) introduced the view that effective change management must create fundamental transformations in the organizational DNA. This view emphasizes that real change does not merely lie in the adoption of new procedures or technologies but in the evolution of vision, operational strategies, and, most crucially, organizational culture. In the public sector, this concept gains additional complexity because it must consider bureaucratic factors, public accountability, and distinctive political dynamics (Masykur, Samsul, & Nuraeni, 2024). Change management in the government environment is not only related to internal efficiency but also involves transforming the relationship between the government and the society it serves (Furr et al., 2022).

2.2 Key Models in Change Management

Various theoretical models have been developed to guide the implementation of change management, each with its own strengths and applications. The 8-steps model Kotter (1996) eight-step model offers a comprehensive framework that begins with the creation of a sense of urgency for change, a critical phase often neglected in bureaucratic practice. This model is particularly relevant for large-scale transformations that require the involvement of the entire organization, such as the implementation of the SPBE. The stage of forming a guiding coalition in Kotter's model is especially important in the government context, where rigid hierarchical structures can hinder change initiatives (Hanelt et al., 2021).

The ADKAR Model proposed by Fernandez-Vidal et al. (2022) provides a more individual-focused approach by emphasizing the psychological processes that each organizational member must undergo to accept change. This model is highly useful for addressing employee resistance by systematically building awareness, desire, knowledge, ability, and reinforcement. Meanwhile, Lewin's Change Model Kotter (1996), with its three stages, offers a simpler yet powerful framework, particularly for understanding the dynamics of forces that drive and restrain change (driving and restraining forces) within public organizations.

2.3 Digital Transformation in the Government Context

Digital transformation in the government sector has evolved from mere process automation into a new paradigm of public governance. Fernandez-Vidal et al. (2022) emphasized that the essence of digital transformation lies in its ability to create new value through the integration of digital technologies into all aspects of organizational operations. The OECD (2019) expands this understanding by highlighting three pillars of government digital transformation: internal process digitalization, development of digital public services, and enhanced citizen engagement through digital channels.

In Indonesia, the SPBE framework, regulated under Presidential Regulation No. 95 of 2018, not only establishes technical standards but also emphasizes the importance of institutional change and work culture transformation. The core principles of SPBE reflect a paradigm shift from conventional bureaucracy to a more agile digital government. Bureaucratic effectiveness and efficiency in this context are not only measured by reductions in document processing time but also by an organization's ability to adapt to rapid change. Transparency and accountability through digitalization present unique challenges within bureaucratic cultures that have traditionally been more closed (Imran et al., 2021).

2.4 Implementation Challenges at the Local Level

Studies by (Farahani et al., 2016; Kraus et al., 2022) reveal that SPBE implementation at the local level is often trapped in a digital paradox, where technological infrastructure is already available but is not supported by adequate human resources and institutional readiness. These findings are consistent with those of (Hanelt et al., 2021; Oktaviani, Asrinur, Prakoso, & Madiistriyatno, 2023) which show that the success of digital transformation is highly dependent on leadership that is capable of acting as a change catalyst. In this context, transformational leadership is not only about having a digital vision but also about the ability to create an environment that supports experimentation, learning from failure, and rewarding innovation.

The complexity of implementation increases further when confronting the unique characteristics of the Indonesian bureaucracy. Hierarchical organizational structures, traditional incentive systems, and high routine workloads often become major barriers to change (Rauf & Andriyani, 2023). The experience of South Tangerang City in implementing SPBE shows that the greatest challenges come from non-technical aspects, such as resistance to changes in work procedures, a lack of digital skills at the operational level, and gaps in understanding between policymakers and system users.

2.5 Integration of Theory and Practice

The synergy between change management models and the implementation of digital transformation creates a comprehensive framework for understanding the dynamics of change in the public sector. Kotter's model provides strategic guidance for managing large-scale changes, whereas the ADKAR Model offers practical tools to address resistance at the individual level. Lewin's Change Model helps explain the dynamics of political and cultural forces within government organizations. The application of these models in the context of government digital transformation requires adaptation to the public sector's specific characteristics. For example, creating a sense of urgency for change requires not only business analysis but also political considerations and public accountability. The formation of guiding coalitions must consider formal bureaucratic structures and inter-agency coordination mechanisms. Likewise, the stage of reinforcing a new culture must consider the reward and punishment systems that apply to the government bureaucracy (Wahyudi et al., 2023).

2.6 Policy and Practical Implications

The findings of various studies on SPBE implementation highlight the need for a holistic approach to designing government digital transformation programs. Digital policies must not be limited to the procurement of hardware and software but must also include components of sustainable capacity development, business process restructuring, and the adjustment of incentive systems. International experience shows that intensive mentoring and coaching programs, the establishment of communities of practice, and the provision of spaces for experimentation are key success factors in digital transformation in the public sector (Fahmi, 2024; Kirana et al., 2023). At the operational level, strong feedback mechanisms are required to ensure that the systems developed truly address the needs of the users. A co-creation approach that involves employees as end-users in system design can increase acceptance and reduce resistance. In addition, the creation of quick wins through the resolution of real problems faced by employees in their daily work can build positive momentum for large-scale change (Darmansah et al., 2024).

3. Research Methodology

3.1 Research Approach and Design

This study adopts a qualitative approach as proposed by Bungin (2011) with an intrinsic case study design to conduct an in-depth analysis of the implementation of change management in digital transformation in the Government of South Tangerang City. The case study design was selected because of its capacity to reveal the complexity of social phenomena in real-life contexts, where the boundaries between the phenomenon and its context are often indistinct. The qualitative approach allows for a deep exploration of the psychological, social, and organizational dynamics inherent in the change management process, including factors that are not easily quantifiable but are crucial in determining the success of digital transformation (Sugiyono, 2022). The study focuses on evaluating five critical

dimensions of change management: policy formulation and change strategy, stages of implementation, the role of key actors, structural–cultural barriers, and the impact on the quality of public services. This research design is classified as intrinsic because it seeks to understand the specific case of digital transformation in South Tangerang City as a unique and valuable phenomenon to be studied in depth rather than merely as a representative case of a broader phenomenon (Sugiyono, 2022).

3.2 Site Selection and Informant Sampling

The research site was purposively determined within the Government of South Tangerang City, particularly focusing on units that served as pioneers in the implementation of the Electronic-Based Government System (SPBE). This site was selected based on the consideration that South Tangerang City represents an urban region with complex governmental dynamics and has demonstrated a strong commitment to digital transformation programs (Sugiyono, 2022). The informant selection technique employed a combination of purposive and snowball sampling to obtain comprehensive perspectives from various hierarchical levels and organizational functions. The criteria for informant selection included policymakers within the Communication and Informatics Office (Diskominfo) and the Regional Development Planning Agency (Bappeda), program managers responsible for digital transformation implementation, operational staff as end-users of the system, and representatives of the community as beneficiaries of digital public services. This diversity of informant roles was designed to provide a holistic understanding of the implementation of change management from the policy to the operational level (Ghozali, 2018).

3.3 Data Collection Techniques

This study implemented a multi-method data collection strategy that included semi-structured, in-depth interviews, participatory observation, and document analysis. The interviews were conducted using open-ended question guides that enabled dynamic exploration of the informants' subjective experiences in dealing with organizational change. The interview process did not only focused on the technical aspects of implementation and explored the psychological and cultural dimensions of change acceptance. Participatory observation was conducted during critical processes, such as training sessions for new systems, coordination meetings for implementation, and digital-based public service activities. This observational approach allowed the researcher to capture phenomena that might not be revealed through interviews, such as nonverbal dynamics and everyday work practices. Document analysis included the examination of digital transformation policies, internal evaluation reports, standard operating procedures, and relevant organizational communication archives (Farhan, Chaudhry, Razmak, & El Refae, 2024; Ushaka Adie, Tate, & Valentine, 2024).

3.4 Data Analysis Process

Data analysis was conducted iteratively using the interactive model of Miles, Huberman, and Saldaña, which integrates data reduction, data display, and conclusion drawing. Raw data from interview transcripts, observation notes, and documents were managed through a staged coding process using the NVivo software. The coding stages began with open coding to identify emergent themes, followed by axial coding to uncover relationships among categories, and concluded with selective coding to integrate the findings into a theoretical framework. The data interpretation process consistently considered the unique context of the Indonesian bureaucracy, including rigid hierarchical structures, work cultures that remain strongly rooted in manual procedures, and local political dynamics that influence the change process. The analysis was conducted using an abductive approach, which combines inductive logic derived from field findings with deductive reasoning based on existing theoretical frameworks (M.M, 2021).

3.5 Research Ethics

This study strictly adhered to the principles of social research ethics by paying close attention to three main aspects: informed consent, confidentiality, and conflict-of-interest management. Written consent was obtained after providing a comprehensive explanation of the research objectives, participants' rights, and data use. Informant confidentiality was maintained using identity codes and encrypted data storage. The researcher's position as the primary research instrument was continuously reflected upon through field notes that disclosed potential bias and personal assumptions. Power relations between the

researcher and informants were carefully managed, particularly when interacting with high-ranking government officials to ensure data objectivity. Limited discussion forums with key informants were conducted to validate the data interpretations before drawing final conclusions (Moleong, 2017).

3.6 Data Validation Strategies

The validity of the findings was maintained through comprehensive triangulation strategies that encompassed four dimensions. Source triangulation was conducted by comparing the perspectives of different types of informants, ranging from policymakers to implementers. Method triangulation confirmed the consistency of the findings across the different data collection techniques. Researcher triangulation involved analytical discussions with peer researchers to reduce the interpretive bias. Member checking was conducted by consulting preliminary findings with key informants to ensure the accuracy of the representation of their experiences. An audit trail was maintained through systematic documentation of the entire analytical decision-making processes. A negative case analysis approach was actively applied to seek data that contradicted general patterns as a test of the validity of the findings (Sahir 2022).

3.7 Operational Stages of the Research

The study was implemented using a systematic workflow in three main phases. The pre-field phase involved the preparation of research instruments, pilot testing of data collection techniques, and establishment of field access through formal bureaucratic procedures. The field data collection phase was conducted intensively using an immersive approach to understand the phenomenon from an emic perspective, namely, the actors' viewpoints. The analysis and validation phase involved an in-depth data interpretation process, preparation of preliminary reports, and validation discussion forums with the relevant stakeholders. All research processes were documented in detail to meet the qualitative research accountability standards. The research timeline was designed flexibly to accommodate unpredictable field dynamics while maintaining a strong focus on the main research objectives (Ramadyna & Oktariyanda, 2025; Ramli, Sarinah, Nugraha, & Januarty, 2024).

4. Results and Discussionc

4.1 Overview of Digital Transformation Implementation

The implementation of digital transformation in the Government of South Tangerang City shows significant progress in terms of technological infrastructure; however, it still faces complex challenges in terms of system adoption and changes in the work culture. Data analysis revealed that 78% of the technical targets, including the development of public service applications and system integration, had been achieved based on the 2024 Diskominfo Performance Report. However, field findings indicate disparities in system adoption across Regional Apparatus Organizations (OPD), with the highest utilization rate at the Population and Civil Registration Office (Disdukcapil) at 82% and the lowest at the Social Service Office at 45%, which correlates with the intensity of training and the level of management support provided.

The formal digital transformation planning process refers to Presidential Regulation No. 95 of 2018 and the Regional Medium-Term Development Plan (RPJMD); however, an NVivo analysis of 25 policy documents reveals a gap between system design and the operational needs of users. The thematic code of "resistance to change" appeared 52 times (31% of the total codes), with key quotations such as, "The system was designed by consultants without understanding our real workflow" (Informant A4). Quantitative data show that only 40% of employee proposals from the system design Focus Group Discussions (FGDs) were implemented, while 60% of system features were determined through a technocratic approach**.**

Tabel 1. Distribusi Kode Tematik Implementasi SPBE

Thematic Code	Frequency	Percentage	Example Quotation
Resistance to change	52	31%	"More comfortable using manual methods"
Competency gap	48	29%	"One day of training is not enough"

Lack of system integration	35	21%	"Data in OPD A are not connected to OPD B"
Leadership support	22	13%	"The head of the office rarely uses the system"
Infrastructure problems	13	6%	"The network is slow at branch offices"

Source: Primary data analysis, 2025

4.2 Dynamics of Program Implementation

Participatory observation in eight OPDs identified three main challenges: (1) 45% of employees continue to use parallel systems (manual and digital), (2) limited training budgets result in 30% of employees not being optimally trained, and (3) cultural resistance in certain work units. In-depth interviews with 15 program implementers revealed operational constraints such as, "There is no reward for employees who have mastered the system" (Informant B7). These qualitative findings are reinforced by the results of an internal user satisfaction survey.

Table 2. Analysis of Employee Adaptation to Digital Systems

Response Category	Percentage	Key Indicator
Adaptive	38%	"The system makes work easier"
Resistant	29%	"It increases the workload"
Neutral	33%	"I only use it when instructed"

Source: Primary data analysis, 2025

The level of technology adoption varies significantly across generations. Correlation analysis revealed a strong relationship ($r = 0.72$) between employee age and the level of difficulty in adaptation. Employees under 35 years of age show a system mastery rate of 85%, while those over 50 years of age show only 32%. FGDs emphasized that, "Training needs to be adjusted to generational characteristics" (Discussion Group C2).

4.3 Discussion

4.3.1 Theoretical Contextualization of Digital Change Implementation

The empirical findings of this study provide contextual validation of Kotter's change model within the Indonesian bureaucratic setting. Comparative analysis shows that Regional Apparatus Organizations (OPD) that consistently implemented the first five stages of Kotter's model (from creating urgency to empowering action) achieved system adoption levels 2.3 times higher than OPDs that implemented the model only partially. The guiding coalition mechanism functions as a catalyst for change through three critical roles: first, as a connector between political leadership and technical operators; second, as a mediator in resolving interdepartmental conflicts; and third, as a role model in technology adoption (Imran et al., 2021; Schneider & Kokshagina, 2021). These findings enrich the digital change management literature by adding a contextual variable in the form of hierarchical Indonesian bureaucratic characteristics, where the effectiveness of the guiding coalition is highly dependent on the formal legitimacy of team members and explicit support from top, regional leaders. A case study at the Population and Civil Registration Office illustrates how tripartite collaboration among echelon II officials, system developers, and frontline representatives successfully overcame resistance by developing a system prototype based on actual user needs (Furr et al., 2022).

4.3.2 The Anatomy of Resistance in Digital Transformation

The revealed digitalization paradox—where the availability of technological infrastructure does not correspond with actual utilization—indicates the existence of psychosocial complexity in the change adoption process. Cohen and Levinthal's (1990) absorptive capacity theory provides a sharp analytical lens to understand this phenomenon by emphasizing that an organization's capacity to assimilate new technology is highly dependent on (1) existing basic knowledge (prior knowledge), (2) the intensity of interaction between technical and operational units, and (3) institutionalized organizational learning mechanisms (Hanelt et al., 2021). The case of the Social Service Office serves as a concrete example

of how one-time training without continuous mentoring fails to generate sustainable behavioral changes. In-depth observations reveal that 78% of employees in this unit experienced what Fernandez-Vidal et al. (2022) refer to as "technology shock," where the new system is perceived as a threat to competencies mastered over many years. This condition is exacerbated by the absence of psychological safety during the transition process, causing employees to be reluctant to admit difficulties and revert to manual methods.

4.3.3 The Dilemma of Digital Policy Design and Implementation

Findings regarding system design gaps reveal fundamental problems within the philosophy of government technology development. Project document analysis reveals the dominance of a technocratic approach that neglects the principle of human-centered design, with 72% of the budget allocated for hardware and software procurement and only 15% for change management training. This practice results in systems that are technologically sophisticated but are functionally misaligned with real bureaucratic workflows. Ethnographic studies at the Licensing Office found that 43% of features in the e-licensing application were never used for three main reasons: first, overly rigid procedures that do not accommodate frequent exceptional cases in the field; second, complex interfaces that require redundant steps; and third, the absence of integration with legacy systems that had already become habitual work practices. These problems became further entrenched because feedback mechanisms from end users (frontliners) were not properly institutionalized within the system development cycle. These findings challenge the common assumption that resistance to digitalization stems solely from individual incapacity and instead shift attention toward the importance of system design based on a deep understanding of everyday work practices (workplace ethnography) (Imran et al., 2021).

4.3.4 The Dynamics of Digital Transformation Sustainability

The institutionalization aspect of Lewin's model reveals the most critical challenge in the digital transformation of local governments. Research data show that only 40% of OPDs have formally integrated digital systems into their Standard Operating Procedures (SOPs), while 65% of employees continue to maintain manual methods as a backup. This phenomenon reflects a failure at the refreezing stage, where change has not yet been fully internalized as a new organizational norm. Institutional analysis identifies four inhibiting factors: first, a reward system that does not encourage adaptive behavior toward technology; second, the absence of consistent supervision mechanisms for digital system usage; third, a disconnect between new systems and employee career development processes; and fourth, system vulnerability due to dependence on external vendors for maintenance of the system. A comparative study with best practices in several other local governments indicates that the sustainability of digital transformation requires what Kraus et al. (2022) term "permanently failing organizations"—the organizational capacity to continuously adapt and renew systems without ever reaching a final stable endpoint. This condition demands the development of a learning organization that focuses not only on technology but also on the continuous development of adaptive capacities.

5. Conclusion

This study reveals that the implementation of digital transformation in the Government of South Tangerang City has achieved significant progress in terms of technological infrastructure, with 78% of system development targets fulfilled, including public service applications, data integration and e-government platforms. However, the overall effectiveness of the transformation still faces complex challenges, particularly in terms of system adoption by employees, changes in work culture, and institutional sustainability. The key findings indicate that the availability of technology does not automatically guarantee optimal utilization, as the average system usage reached only 62%, and 65% of employees still relied on manual methods as a backup. This study reinforces the importance of a comprehensive change management approach that integrates technological readiness with strengthening human resource capacity, transformational leadership, and user-centered system design.

Limitations and Future Research

This study had several limitations that need to be acknowledged. First, the scope limited to a single municipal government area makes it difficult to generalize the findings to other regions with different bureaucratic characteristics. Second, the relatively short observation period restricts the analysis of the

long-term impact of digital transformation on organizational performance and public service quality. Third, the dominance of a qualitative approach, although providing analytical depth, is less capable of quantifying causal relationships among variables, such as the effect of training on employee productivity. Fourth, limited access to detailed budget data and internal evaluation documents may have affected the depth of the analysis regarding the efficiency of technology investment.

Future research may extend these findings through several avenues. First, comparative studies across local governments with different levels of digital maturity are conducted to identify the contextual factors that determine success. Second, longitudinal studies that monitor the evolution of digital transformation over a 5–10 year period to evaluate sustainability indicators and institutional impacts are needed. Third, the integration of mixed-method approaches with large-scale quantitative analysis to measure the correlations between change leadership, organizational adaptive capacity, and digital system performance. Fourth, the exploration of digital talent development models within the bureaucracy through competency-based reskilling and upskilling schemes is required. Finally, research on the application of artificial intelligence and data analytics in strengthening digital government governance may offer innovative solutions to future challenges in this area.

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