

Reinventing Public Service Delivery through Digital Civil Registration in Jember Regency, Indonesia

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ABSTRAK

Transformasi digital dalam administrasi publik menjadi prioritas strategis untuk meningkatkan efisiensi, inklusivitas, dan kualitas layanan publik. Di Indonesia, kondisi geografis yang tersebar dan kesenjangan sosial-ekonomi menuntut pendekatan inovatif yang mengintegrasikan teknologi dengan reformasi tata kelola. Penelitian ini bertujuan mengkaji model strategis penguatan layanan administrasi kependudukan digital di Kabupaten Jember melalui implementasi aplikasi J-Lahbako dalam kerangka Society 5.0 dan paradigma Reinventing Government. Metode penelitian yang digunakan adalah kualitatif melalui analisis dokumen, observasi, dan wawancara dengan pemangku kepentingan. Hasil penelitian menunjukkan bahwa J-Lahbako meningkatkan aksesibilitas layanan, mengurangi inefisiensi birokrasi, dan memperkuat inklusivitas, khususnya bagi masyarakat pedesaan. Analisis dilakukan melalui lima dimensi tata kelola yang mencakup kesiapan kelembagaan, capaian kinerja, orientasi pada warga, mekanisme akuntabilitas, dan budaya organisasi. Interaksi kelima dimensi tersebut menunjukkan bahwa keberlanjutan transformasi digital ditentukan oleh sinergi antara struktur kelembagaan, sistem teknologi, dan partisipasi masyarakat. Penelitian ini menawarkan kebaruan berupa model tata kelola layanan digital berbasis desa yang kontekstual. Secara praktis, temuan ini menjadi rujukan bagi pengembangan reformasi layanan publik yang inklusif, adaptif, dan berkelanjutan di wilayah pedesaan.

ABSTRACT

Digital transformation in public administration has become a strategic priority to enhance efficiency, inclusivity, and service quality. In Indonesia, geographic dispersion and socio-economic disparities require innovative approaches that integrate technological advancement with governance reform. This study examines a strategic model for strengthening digital civil registration services in Jember Regency through the J-Lahbako application, framed within the concepts of Society 5.0 and the Reinventing Government paradigm. A qualitative method was employed using document analysis, field observations, and stakeholder interviews. The findings show that J-Lahbako improves service accessibility, reduces bureaucratic inefficiencies, and enhances inclusivity, particularly for rural communities. The analysis applies five interrelated governance dimensions: institutional readiness, performance outcomes, citizen orientation, accountability mechanisms, and organizational culture. The interaction of these dimensions demonstrates that sustainable digital transformation depends on the alignment between institutional structures, technological systems, and community participation. This study offers a novel contribution by proposing a contextual village-based digital governance model. Practically, the findings provide guidance for policymakers and practitioners in developing inclusive, adaptive, and sustainable public service reforms in rural areas.

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INTRODUCTION

Digital transformation has become a strategic agenda in improving the quality of public service delivery. The Indonesian government has actively promoted the use of digital platforms to expand service access, enhance efficiency, and strengthen accountability in public administration. Within this context, the Society 5.0 framework positions technology as a means to improve public welfare through the balanced integration of physical and digital spaces (Akib et al., 2024). This approach is particularly relevant to the development of public services that are adaptive, inclusive, and responsive to community needs. In line with this perspective, Osborne's Reinventing Government framework emphasizes five strategic dimensions—core, consequences, customer, control, and culture—which focus on results orientation, citizen participation, and institutional capacity building. The integration of Society 5.0 principles with the Reinventing Government approach provides a strong analytical foundation for understanding how digital innovation can be effectively implemented in public service contexts (Wijaya, 2023).

Despite these policy directions, the implementation of digital public services in Indonesia remains uneven, particularly in rural areas. Limited infrastructure, low levels of digital literacy, and capacity constraints within local government organizations continue to pose significant challenges (Mardianto et al., 2025). These conditions contribute to disparities in service access and effectiveness, especially in civil registration services, which are essential and mandatory for all citizens. In addition, concerns related to data security and public trust further hinder the optimal utilization of digital service platforms (Afifuddin et al., 2023). In Jember Regency, the J-Lahbako innovation was developed as an effort to expand access to civil registration services through a village-based digital mechanism. This innovation is designed to facilitate community access to civil registration services, particularly for rural residents who often face administrative and bureaucratic barriers. Initial findings indicate that the implementation of J-Lahbako has improved service efficiency and reduced bureaucratic obstacles, especially for rural communities (Mayasiana et al., 2023). However, the sustainability of this innovation is not determined solely by technological factors, but is also influenced by organizational readiness, community acceptance, and the continuity of cross-sector collaboration in service delivery.

Previous studies have widely discussed digitalization in public services and innovations in civil registration systems; however, most of these studies focus primarily on technical implementation or performance evaluation. Research that specifically examines village-level digital civil registration services by integrating governance perspectives and the Reinventing Government approach within the Society 5.0 framework remains limited. This gap indicates the need for research that goes beyond descriptive analysis and contributes to the development of a conceptual model capable of explaining the interrelationships between technology, actors, governance mechanisms, and service outcomes at the village level.

Based on this context, this study aims to develop a conceptual model of digital civil registration service innovation through the implementation of J-Lahbako in Jember Regency by integrating Society 5.0 principles with the five dimensions of Reinventing Government. The analysis of J-Lahbako's implementation is used to identify enabling and constraining factors and to formulate a model that supports the development of inclusive, adaptive, and sustainable digital civil registration services in rural areas.

Literature Review

Digital Transformation in Public Service

Digital transformation has become a central strategy in improving the quality, efficiency, and inclusiveness of public service delivery. Governments worldwide are increasingly adopting digital platforms to streamline administrative processes, expand service access, and enhance transparency (Farida et al., 2021; Afifuddin et al., 2023). In developing countries, digital transformation also serves as a mechanism to overcome geographical barriers and administrative limitations that traditionally restrict citizens' access to essential public services (Baried, 2023). However, digitalization is not merely a technical upgrade; it involves changes in institutional structures, service procedures, and patterns of interaction between governments and citizens (Wirtz et al., 2022).

In the context of population administration, digital systems are expected to reduce processing time, minimize human error, and improve data accuracy. Nevertheless, the success of digital transformation depends on the readiness of institutions, the capacity of public officials, and the ability of communities to adapt to new service mechanisms (Afifuddin et al., 2023; Yolanda & Wirantari, 2025).

Society 5.0 and Human-Centered Digital Governance

The concept of Society 5.0 positions technology as a tool to enhance human well-being by integrating cyberspace and physical space in a human-centered manner (Akib et al., 2024). Unlike earlier technological paradigms that emphasized efficiency and automation, Society 5.0 stresses inclusivity, social problem-solving, and the alignment of digital innovation with human needs. Within public administration, this perspective highlights the importance of ensuring that digital services remain accessible, equitable, and responsive to diverse community characteristics (Wijaya, 2023).

The relevance of Society 5.0 in public service governance lies in its emphasis on balancing technological advancement with social inclusion. Digital platforms should not replace human interaction entirely but should complement institutional mechanisms to create more adaptive and citizen-oriented services. However, scholars also caution that digital transformation may reproduce inequalities, trigger bureaucratic resistance, and create governance risks when technological adoption is not accompanied by institutional readiness and community capacity.

Reinventing Government as a Public Sector Reform Framework

The Reinventing Government framework provides a strategic perspective on public sector reform by emphasizing results orientation, citizen focus, accountability, and institutional adaptability (Osborne, 2010). Osborne's approach introduces five strategic dimensions: core strategy, consequences strategy, customer strategy, control strategy, and culture strategy, which collectively guide governments in transforming rigid bureaucratic systems into more flexible and performance-driven institutions.

While Reinventing Government has been widely applied in administrative reform, its integration into digital civil registration services—particularly in rural governance contexts—remains underexplored. Most studies focus either on managerial reform or technological innovation, rarely combining both within a unified governance perspective (Janssen & van der Voort, 2016; Wirtz et al., 2022).

Critical Perspectives on Digital Public Service Innovation

Despite its potential, digital transformation in public services does not automatically produce equitable or sustainable outcomes. Research shows that digital platforms may generate new forms of exclusion when communities have limited digital literacy, inadequate infrastructure, or low trust in technology-based systems (Afifuddin et al., 2023; Baried, 2023) (Afifuddin et al., 2023; Baried, 2023). Similarly, bureaucratic resistance and limited organizational capacity often slow the institutionalization of digital reform, causing digital initiatives to function as temporary projects rather than long-term governance change (Janssen & van der Voort, 2016).

In rural contexts, the digital divide remains a significant challenge. Limited internet connectivity, insufficient training for local officials, and disparities in citizens' ability to use digital tools may hinder the effectiveness of digital services (Yolanda & Wirantari, 2025). These challenges demonstrate that digital transformation is not solely a technological process but a socio-institutional change that requires cultural adaptation, organizational learning, and continuous support mechanisms.

Strategic Dimensions of Digital Civil Registration Services

The five strategic dimensions of Reinventing Government offer a comprehensive framework for analyzing digital civil registration services as a governance system rather than a standalone technological intervention (Osborne, 2010). Digitalization of population administration affects institutional roles, performance standards, citizen interaction, accountability structures, and work culture simultaneously.

Previous studies on digital governance often emphasize technical efficiency or user satisfaction but rarely integrate institutional strategy, performance orientation, accountability mechanisms, and organizational culture into a single analytical framework (Janssen & van der Voort, 2016; Wirtz et al., 2022). This fragmentation limits the sustainability of digital reforms, particularly in decentralized governance settings.

Research Gap and Conceptual Contribution

Existing literature has extensively discussed digital governance and public sector innovation. However, most studies treat digital transformation as either a technological upgrade or a service delivery improvement, without systematically linking institutional reform, citizen engagement, and organizational culture. Furthermore, research on digital civil registration services at the village level remains limited, especially in developing country contexts where local capacity and social conditions significantly shape implementation outcomes (Afifuddin et al., 2023; Baried, 2023).

This study addresses this gap by integrating the principles of Society 5.0 with the five strategic dimensions of Reinventing Government to analyze the implementation of J-Lahbako in Jember Regency. By doing so, the research develops a strategic governance model that explains how digital civil registration services can be institutionalized in rural settings through the interaction of technology, organizational capacity, and citizen participation.

RESEARCH METHODS

This study employed a qualitative descriptive design to analyze strategies for strengthening digital civil registration services through the integration of Society 5.0 principles and Osborne's Reinventing Government framework, which encompasses the dimensions of core,

consequences, customer, control, and culture. The research was conducted at the Department of Population and Civil Registration of Jember Regency, focusing on Jenggawah Subdistrict, where all villages had implemented the J-Lahbako application. Kemuningsari Village was selected as the primary field site due to its early adoption and relatively stable operational performance, making it a relevant locus for examining institutional adaptation and service innovation.

Informants were selected using purposive sampling based on their direct involvement in the implementation and utilization of J-Lahbako services. A total of 12 informants participated, consisting of three regency-level civil registration officials, four village administrative operators, two village heads, and three community members who had accessed digital civil registration services. Selection criteria included: (1) active involvement in the operation or supervision of digital services, (2) direct experience in using or managing the J-Lahbako system, and (3) willingness to provide in-depth information regarding service processes and challenges.

Data were collected through multiple techniques to ensure data triangulation and contextual depth. These included: (1) semi-structured interviews with government officials, village administrators, and service users; (2) direct observation of service delivery processes at village offices; (3) document analysis of service reports, administrative guidelines, and regulatory documents; and (4) focus group discussions (FGDs) with village service operators. Interview protocols explored institutional coordination, service procedures, technological adaptation, and citizen experiences. Field evidence indicated, for example, that village operators perceived a reduction in residents' travel burdens, while service users highlighted the importance of face-to-face assistance for elderly applicants.

Data analysis followed the interactive model of Miles, Huberman, and Saldaña (2014), involving data condensation, data display, and conclusion drawing. Thematic coding was conducted iteratively to identify patterns related to governance strategies, institutional capacity, service performance, and citizen engagement, ensuring alignment between empirical findings and the analytical framework.

To enhance research credibility, methodological triangulation was applied by comparing interview data, observations, and official documents. Member checking was conducted with selected informants to validate interpretations, while reliability was strengthened through transparent documentation of analytical procedures and peer debriefing during data interpretation.

RESULTS AND DISCUSSIONS

Overview of Digital Service Implementation

The digital transformation of civil registration services in Jember Regency provides the empirical foundation for the development of the proposed governance model. The introduction of the J-Lahbako application in 2022 represents a structural shift from conventional, paper-based administration toward an integrated digital service system at the village level. Within the context of Society 5.0, this transformation illustrates how technological systems, institutional restructuring, and citizen engagement converge to form a new governance arrangement rather than a mere technical reform.

Field findings indicate improvements in service accessibility and administrative efficiency, particularly for rural communities that previously faced significant barriers in accessing civil registration services. The availability of village-based digital access points and the involvement

of trained local operators demonstrate how decentralized service mechanisms can enhance inclusiveness. Increased processing efficiency and improved document management have also been reported in local administrative practices (Farida et al., 2021; Himam, 2016). In the proposed model, these developments are interpreted as indicators of institutional adaptation and service realignment rather than isolated outcomes of technological deployment.

However, digital transformation in Jember also reveals contextual constraints that shape the performance of digital services. Variations in digital literacy, uneven internet stability, and continued dependence on higher-level administrative processing show that technological innovation operates within existing institutional structures. These findings highlight that digital governance does not function through technological determinism, but through the interaction between organizational readiness, infrastructure capacity, and citizen capabilities.

Empirical studies in Indonesia and Southeast Asia similarly suggest that digital initiatives often fail when treated as short-term projects rather than long-term institutional and cultural transformations (Musadad et al., 2023). In the case of J-Lahbako, service improvements coexist with operational challenges, illustrating that digital reform is an iterative governance process. This condition aligns with research emphasizing hybrid service arrangements, where digital platforms are complemented by face-to-face facilitation for digitally vulnerable populations (Afifuddin et al., 2023; Baried, 2023; Wahidin et al., 2025; Yolanda & Wirantari, 2025).

Therefore, the Jember experience does not simply confirm dominant e-government theories that associate digitalization with automatic efficiency gains. Instead, it demonstrates that service outcomes are mediated by administrative capacity, institutional coordination, and social readiness. Within this study, these empirical dynamics form the contextual basis for constructing a strategic governance model that integrates technological systems with institutional and cultural dimensions of public service delivery.

Core Strategy: Strengthening Service Foundations

Within the proposed model, the Core Strategy defines the fundamental institutional and technological foundations that enable sustainable digital civil registration services. This strategy emphasizes the alignment of digital systems with regulatory frameworks, organizational readiness, and standardized service procedures to ensure accessibility, efficiency, and legal certainty. Village governments are positioned as institutional intermediaries that connect citizens with the Population and Civil Registration Office through structured digital mechanisms, redefining their role from passive administrative units into active facilitators of integrated public services (Mayasiana et al., 2023).

The model conceptualizes system architecture, interoperability, and procedural alignment as structural components rather than merely technical features. Integration with national population databases, regulatory compliance, and coordinated workflows across levels of government ensure data accuracy, administrative legitimacy, and service continuity (Oktariyanda et al., 2021; Rosyadi et al., 2022). In this perspective, technology operates as an embedded governance instrument that supports institutional coherence rather than functioning as an isolated digital tool.

Furthermore, the Core Strategy highlights the importance of organizational adaptation and cultural readiness in sustaining digital transformation. The internalization of transparency values, adjustment of work routines, and capacity development among village officials represent institutional dimensions that support the long-term functionality of digital services (Putri et al., 2018). Thus, the model positions digital transformation not only as a technological shift but as a

socio-institutional restructuring process shaped by local governance capacity and contextual conditions.

The inclusion of decentralized access points at the village level, supported by simplified service interfaces and human facilitation, illustrates how digital systems are adapted to local social and infrastructural realities. This arrangement reflects a governance approach consistent with Society 5.0 principles, where technology enhances human-centered service delivery rather than replacing direct interaction. In the proposed model, such arrangements represent foundational mechanisms that bridge structural service gaps while maintaining institutional accountability and citizen engagement (Mayasiana et al., 2023).

Consequences Strategy: Measuring and Driving Performance Outcomes

Within the proposed model, the Consequences Strategy represents the performance-oriented dimension that links digital service innovation with measurable governance outcomes. This strategy emphasizes the use of structured performance indicators to ensure that digital civil registration services produce tangible improvements in efficiency, accuracy, accessibility, and citizen satisfaction. Rather than viewing performance measurement as a technical reporting mechanism, the model conceptualizes it as a governance instrument that sustains accountability and service reliability.

Empirical findings from the J-Lahbako implementation demonstrate how outcome indicators function within this strategic dimension. Reductions in service completion time, declining document error rates, and improvements in citizen satisfaction illustrate how performance metrics guide service refinement and institutional learning (Mayasiana et al., 2023). In the model, these indicators serve not merely as evaluative tools but as feedback mechanisms that inform adaptive service management and strengthen public trust in digital governance.

The Consequences Strategy also incorporates data-driven monitoring systems that enable continuous performance oversight. The use of real-time dashboards to track service coverage, user demographics, and complaint patterns reflects a shift toward evidence-based governance practices. In this perspective, analytical tools function as institutional instruments that support responsive decision-making, resource allocation, and procedural adjustment, consistent with results-oriented governance principles (Hidayat, 2021; Cook et al., 2024).

Table 1 illustrates how performance outcomes changed following the implementation of J-Lahbako, providing empirical grounding for this strategic dimension.

Table 1.
Comparative Indicators of Population Administration Services in Jember

No.	Performance Indicator	Before J-Lahbako	After J-Lahbako
1.	Service Completion Time	Frequently exceeded national service standards.	Requests are generally completed within the national timeframe.
2.	Error Rate	Relatively high due to manual processes prone to error.	Significantly reduced through automated data validation.
3.	Accessibility	Citizens in villages are required to travel to sub-district or district offices, imposing distance and cost burdens.	Services are available locally through digital devices and trained village officers.

4.	Citizen Satisfaction	Low to moderate; complaints centered on delays and complex procedures.	Substantially improved, particularly in rural areas.
5.	Transparency and Monitoring	Limited; data is difficult to monitor in real time.	Real-time dashboards tracking coverage, demographics, and complaints.

Source: Author’s Analysis (2025)

In the proposed model, these comparative outcomes illustrate how performance accountability reinforces digital service sustainability. Improvements in efficiency and accuracy reduce administrative burdens, while enhanced transparency and monitoring strengthen institutional credibility. The decline in document errors through automated validation further demonstrates how technological integration supports procedural reliability (Hassanat Adepoju et al., 2022).

Moreover, expanded service accessibility at the village level reflects how outcome-oriented governance can reduce spatial and socio-economic disparities in public service delivery. The model therefore interprets performance gains not only as operational achievements but as indicators of institutional adaptation and inclusive governance. The integration of monitoring tools also enhances transparency by enabling systematic oversight and evidence-based decision-making (Basile et al., 2025).

Overall, the Consequences Strategy positions performance outcomes as central drivers of digital governance transformation. Within the model, measurable improvements in service quality, accessibility, and citizen satisfaction function as reinforcing mechanisms that align technological innovation with accountable, transparent, and citizen-centered public administration.

Customer Strategy: Enhancing User-Centric Service Delivery

Within the proposed model, the Customer Strategy represents the citizen-oriented dimension of digital civil registration governance. This strategy emphasizes the design of service mechanisms that prioritize accessibility, inclusiveness, and responsiveness to diverse community needs. Rather than treating citizens as passive service recipients, the model positions them as active participants whose experiences and capacities shape the effectiveness of digital service delivery (Irawan, 2020).

The model conceptualizes user-friendly system design as a structural component of inclusive governance. Features such as simple interfaces, multilingual options, and adaptive access mechanisms illustrate how digital platforms can accommodate variations in educational background, age, and socio-cultural context (Aldi et al., 2024). These elements are interpreted not merely as technical enhancements but as governance tools that reduce barriers to participation and minimize administrative errors arising from user difficulties.

In addition, the Customer Strategy incorporates hybrid access arrangements that combine digital platforms with offline facilitation at the village level. This approach addresses connectivity disparities and ensures that residents in areas with limited internet infrastructure remain included in the service system. Within the model, such flexibility represents an adaptive governance mechanism that responds to local infrastructural conditions while maintaining service continuity.

Accessibility for elderly citizens and persons with disabilities is also conceptualized as a core component of this strategy. Inclusive design features—such as adjustable text sizes, voice navigation, and disability-friendly interfaces—illustrate how digital transformation can be aligned with principles of equity and social justice. The model therefore frames accessibility not

as a supplementary feature, but as an institutional commitment to universal service rights.

Furthermore, the Customer Strategy integrates participatory feedback mechanisms that enable citizens to report issues, suggest improvements, and interact directly with service providers. These feedback channels, along with complementary digital literacy initiatives at the village level, support a co-productive governance environment where citizens contribute to service refinement (Heksaputra et al., 2024). This arrangement aligns with Society 5.0 principles that emphasize human-centered value creation and with Reinventing Government perspectives that highlight community empowerment in public service delivery (Sodani, 2020).

Overall, within the proposed model, the Customer Strategy ensures that digital civil registration services remain socially embedded, participatory, and responsive. By integrating usability, inclusiveness, and citizen feedback into governance structures, this dimension strengthens the legitimacy and sustainability of digital public service innovation.

Control Strategy: Governance and Accountability Mechanisms

Within the proposed model, the Control Strategy represents the institutional dimension that safeguards accountability, legality, and public trust in digital civil registration services. Digital transformation in public administration cannot rely solely on technological efficiency; it requires structured governance mechanisms that regulate how systems operate, how data are protected, and how performance is evaluated. This strategy conceptualizes control not as restriction, but as an enabling framework that ensures digital innovation remains transparent, secure, and socially accountable (Hidayat, 2021).

The model distinguishes between internal (intra-governmental) and external (extra-governmental) control mechanisms. Internal controls include routine audits, compliance monitoring, and performance supervision conducted by responsible agencies. These mechanisms ensure that digital procedures follow established service standards, data management protocols, and operational regulations. Such arrangements reflect the importance of institutional discipline and organizational capacity in sustaining digital governance (Rukayat et al., 2025).

However, the model also recognizes that internal oversight alone is insufficient to guarantee accountability. Therefore, external control mechanisms—such as supervision by independent regulatory bodies, civil society organizations, media scrutiny, and citizen feedback channels—are positioned as complementary forces that enhance transparency and public legitimacy (Heksaputra et al., 2024). The interaction between internal supervision and external scrutiny forms a dual-layered accountability structure that strengthens governance resilience.

Data security constitutes a central component of the Control Strategy. Because civil registration services involve sensitive personal information, compliance with national cybersecurity and data protection standards becomes a foundational requirement. Mechanisms such as encryption, multi-factor authentication, and role-based access controls illustrate how technological safeguards are institutionalized within governance structures. These measures position digital service systems not merely as administrative tools, but as regulated public infrastructures subject to legal and ethical obligations (Hidayat, 2021).

Importantly, the model extends the notion of control beyond security and compliance to include equity monitoring. Efficiency gains from digitalization may unintentionally widen service disparities if vulnerable groups lack access or digital skills. Therefore, this strategy incorporates mechanisms to track service reach across socio-economic groups and to trigger corrective interventions—such as assisted services or targeted outreach—when exclusion risks are

detected. This perspective challenges purely efficiency-driven digital governance models and aligns control functions with principles of fairness and social justice (Winterford, 2016).

Empirical observations from J-Lahbako’s implementation further illustrate how these control mechanisms operate in practice. Routine monitoring by Dispendukcapil has improved procedural compliance, yet village-level operators still face difficulties in meeting documentation standards due to varying technical skills and internet instability. At the same time, citizen complaint channels have become more active, indicating growing public awareness of service rights. These conditions demonstrate that governance control within digital services is not merely regulatory, but also adaptive, requiring continuous coordination between institutional discipline and community feedback (Mayasiana et al., 2023).

Table 2.
Internal and External Control Mechanisms in the Digital Service Governance Model

No	Control Dimension	Internal Mechanisms	External Mechanisms
1	Audit & Monitoring	Routine audits, SOP compliance checks, internal monitoring teams	Oversight by independent bodies, NGOs, and media
2	Regulatory Compliance	Enforcement of national digital security standards, role-based access control	External review of data protection and public information compliance
3	Performance Evaluation	Periodic KPI-based evaluations and dashboard monitoring	Citizen complaints, satisfaction surveys, and public consultation forums
4	Corrective Actions	Staff retraining, SOP refinement, administrative enforcement	Policy advocacy, recommendations from civil society, regulatory intervention

Source: Author’s Analysis (2025)

Overall, within the developed model, the Control Strategy ensures that digital civil registration services operate within a framework of legality, transparency, and social accountability. By integrating internal discipline, external oversight, data protection, and equity monitoring, this dimension strengthens institutional legitimacy and supports the long-term sustainability of digital public service innovation.

Culture Strategy: Building a Digital-Ready Public Sector Culture

Within the proposed governance model, the Culture Strategy represents the human and organizational dimension that sustains digital transformation beyond system deployment. While digital infrastructure enables service modernization, long-term effectiveness depends on whether civil servants develop adaptive mindsets, collaborative routines, and continuous learning practices. Cultural readiness therefore functions as the enabling foundation that allows the other strategic dimensions—core, customer, consequences, and control—to operate cohesively within a Society 5.0 governance environment.

Empirical evidence from J-Lahbako’s implementation demonstrates that structured training programs have played a significant role in shaping digital competence among village operators and civil registration officers. These programs focus not only on technical skills but also on procedural accuracy, data validation, and problem-solving capacity (Himam, 2016). Staff members who regularly participate in such capacity-building activities report greater confidence in navigating the system interface and handling administrative variations. This suggests that digital literacy in public service settings must be understood as both technical proficiency and institutional awareness.

Performance monitoring data further indicate a correlation between staff readiness and service reliability. Offices with trained operators show fewer procedural errors and faster adaptation to system updates. In contrast, units with limited training exposure experience temporary delays when new modules or workflow adjustments are introduced. These differences highlight that digital transformation outcomes are unevenly distributed across institutions depending on organizational learning capacity (Rukayat et al., 2025). Thus, cultural readiness becomes a mediating factor between technological availability and actual service performance.

Adaptability emerges as a defining characteristic of a digital-ready culture. The transition from paper-based procedures to system-based workflows requires civil servants to shift from routine administrative habits to more dynamic and data-oriented practices. Field observations reveal that some officials initially resist system changes due to concerns about increased transparency or unfamiliar work patterns. However, continuous exposure to digital processes gradually normalizes new routines, illustrating that cultural transformation is iterative rather than immediate (Mayasiana et al., 2023).

Incentive structures also influence the pace of cultural change. Recognition programs and internal reward mechanisms implemented in Jember encourage employees to propose service improvements and share innovations across units. Data show that departments participating in these initiatives demonstrate higher levels of experimentation and inter-unit collaboration (Husnifal et al., 2023; Rifai & Adilansyah, 2024). This indicates that innovation in public administration is not solely driven by regulation, but also by motivational environments that value creativity and initiative.

Cross-functional collaboration represents another important cultural dimension. Digital service delivery often requires coordination between village offices, sub-district administrations, and the Population and Civil Registration Office. Units that actively engage in cross-departmental coordination resolve service bottlenecks more effectively than those operating in isolation. These findings confirm that organizational culture must evolve from silo-based structures toward networked governance practices that facilitate knowledge exchange and joint problem-solving (Mayasiana et al., 2023).

Despite these positive developments, cultural transformation also reveals limitations. Some staff members continue to depend on informal communication channels rather than system-based documentation, which can create inconsistencies in data processing. Additionally, workload pressures may reduce the time available for learning new features, slowing institutional adaptation. These challenges indicate that cultural change requires sustained leadership commitment and continuous reinforcement, rather than one-time training interventions.

Overall, the Culture Strategy within the model emphasizes that digital transformation in public services is fundamentally a human-centered process. The integration of training, incentives, collaborative practices, and adaptive routines demonstrates that cultural readiness is both measurable and manageable. By embedding learning and innovation into daily administrative behavior, Jember's experience illustrates how organizational culture can evolve to support inclusive, responsive, and sustainable digital governance.

This dimension aligns closely with the principles of Society 5.0, which position human capability and social systems as central drivers of technological value (Yanto & Cahyo Nugroho, 2025). In this model, culture acts as the connective layer linking technology, governance structures, and citizen engagement. Without cultural transformation, digital systems risk becoming underutilized tools; with it, they become instruments for long-term public value creation.

Comparative Perspective on Rural-Oriented Digital Governance

Comparative analysis highlights the distinctiveness of Jember's village-based digital service model when contrasted with urban-centered digital governance initiatives in Indonesia. While many smart governance programs emphasize technological centralization and urban efficiency, J-Lahbako reflects a decentralized and rural-oriented approach that adapts digital innovation to local socio-geographical realities.

For instance, platforms such as Jogja Smart Service in Yogyakarta illustrate how centralized digital systems can improve administrative efficiency in urban settings by integrating multiple services into a single digital gateway (Heksaputra et al., 2024). However, centralized models often depend on stable connectivity, higher digital literacy, and proximity to administrative centers. These conditions may limit accessibility for residents in peripheral or rural areas where infrastructure and technological familiarity are uneven.

Similarly, studies on Jakarta's smart city ecosystem demonstrate that digital transformation enhances operational efficiency, accelerates information flows, and supports data-driven governance in metropolitan contexts (Rosanti et al., 2022). Nevertheless, these models also reveal inclusion challenges, particularly for marginalized groups who lack digital access or face socio-economic barriers. In such cases, digital platforms risk reinforcing existing inequalities rather than reducing them.

In contrast, J-Lahbako's governance design prioritizes decentralized access through village-level operators, allowing citizens to receive assistance directly within their communities. This structure reduces travel costs, minimizes dependency on intermediaries, and accommodates residents with limited digital literacy. Rather than assuming that citizens must adapt to technology, the Jember model adapts technology to local conditions. This inversion of the typical digital governance logic represents a key conceptual distinction from urban-centered models.

Another differentiating factor lies in community empowerment and institutional distribution of roles. Village officials are trained and authorized to act as service intermediaries, while citizens participate through feedback mechanisms and assisted service interactions. This shared responsibility structure reflects a governance approach where digital transformation is embedded in local institutional ecosystems rather than concentrated in central agencies (Mayasiana et al., 2023).

Culturally, the rural-oriented approach in Jember emphasizes adaptive learning and cross-level coordination, contrasting with more procedural and system-driven models in metropolitan areas. While urban smart governance often focuses on technological optimization, the Jember case illustrates how digital governance in rural contexts must prioritize human facilitation, institutional flexibility, and hybrid service models that combine digital tools with face-to-face assistance (Heksaputra et al., 2024).

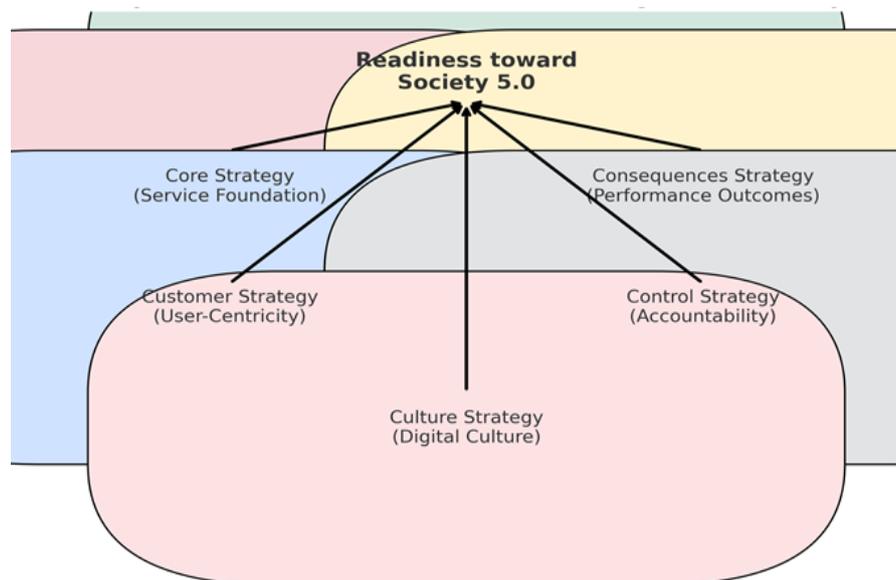
This comparative perspective reinforces the novelty of the proposed model: it conceptualizes digital civil registration services not as a centralized technological system, but as a village-based governance network that integrates digital platforms, human intermediaries, and local institutional capacity. By foregrounding rural realities, the model extends digital governance theory beyond urban smart city paradigms and contributes a context-sensitive framework for inclusive digital transformation in developing regions.

Proposed Strategic Model for Village-Based Digital Civil Registration Services

Based on empirical findings from the implementation of J-Lahbako, this study proposes a governance-based conceptual model for village-level digital civil registration services. The model integrates the principles of Society 5.0 with the five strategic dimensions of Reinventing Government—core, consequences, customer, control, and culture—into a unified framework that explains how digital innovation can be institutionalized in rural public service settings.

Rather than presenting J-Lahbako merely as a technological application, the model conceptualizes digital civil registration services as a multi-layered governance system where technology, organizational capacity, and citizen engagement operate interactively. Each strategic dimension represents a functional component that contributes to service sustainability, yet none operates independently. The effectiveness of digital transformation emerges from the alignment and interaction among these dimensions.

Figure 1.
Conceptual Model of Governance Integration for Sustainable Digital Transformation



Source: Author's Analysis (2025)

Figure 1 presents a strategic governance model of digital civil registration services at the village level. The model illustrates how the five dimensions of Reinventing Government operate interactively to support inclusive, adaptive, and sustainable service delivery. Each strategic dimension represents a functional component of governance rather than a standalone administrative activity, emphasizing that the effectiveness of digital services depends on the coherence between institutional design, service processes, and community participation within a Society 5.0 framework.

The Culture Strategy reflects institutional and behavioral transformation within village governance. The implementation of J-Lahbako encourages changes in work culture, emphasizing digital competence, service responsiveness, and collaborative coordination between village administrations and higher-level agencies. Within the model, cultural transformation is positioned as a critical enabling factor that sustains digital service innovation beyond technological adoption (Janssen & van der Voort, 2016).

The Core Strategy emphasizes alignment between digital civil registration services and the

fundamental mandate of public service delivery—accessibility, efficiency, and legal certainty. In this model, village governments function as service intermediaries that bridge citizens and the Population and Civil Registration Office. This strategic positioning redefines the role of village institutions from administrative extensions into active service facilitators within a digital governance system (Wirtz et al., 2022).

The Control Strategy regulates service quality and administrative integrity through hierarchical and digital supervision mechanisms. The integration of village operators with the Population and Civil Registration Office ensures procedural compliance, document verification, and data security. Rather than functioning solely as bureaucratic oversight, control within the model operates as a governance mechanism that balances service decentralization with institutional accountability (Sundberg & Holmström, 2024).

The Consequences Strategy highlights the importance of performance orientation and outcome-based service delivery. J-Lahbako institutionalizes measurable service standards, including the four-day processing target for civil registration documents once administrative requirements are fulfilled. In the model, this strategy functions as a mechanism to ensure accountability and service reliability, reinforcing public trust in digital governance practices (Ciancarini et al., 2023).

The Customer Strategy positions citizens as central actors in digital service innovation. The J-Lahbako model enhances citizen orientation by enabling village-based service access, reducing reliance on intermediaries, and eliminating informal brokerage practices. Within this framework, citizen convenience, service transparency, and inclusiveness are treated as strategic governance objectives rather than incidental outcomes of digitalization (Osborne, 2010).

Overall, these five strategies form an integrated governance framework in which service quality, accountability, performance, user experience, and digital culture reinforce one another. Their interaction demonstrates that sustainable digital transformation relies not only on technological deployment but also on a holistic and human-centered governance design. Through this synergy, the model reflects institutional readiness toward Society 5.0, where technology is leveraged to enhance human well-being comprehensively (Zhang et al., 2022).

The proposed model therefore contributes to digital governance theory by illustrating how village-level institutions can function as active governance nodes within a socio-technical service system. By integrating Society 5.0 principles with the Reinventing Government framework, this study advances a context-sensitive model explaining how digital civil registration services in rural settings can be developed in a structured, accountable, and sustainable manner.

Although the model is grounded in the empirical context of Jember Regency, its governance structure, strategic dimensions, and village-based service mechanisms offer elements that are adaptable and potentially replicable in other rural administrative settings with similar institutional and socio-demographic characteristics. The transferability of this model lies not in duplicating technological tools, but in adopting its integrated governance approach that balances technology, institutional capacity, and citizen engagement.

CONCLUSIONS

This study confirms that the implementation of J-Lahbako in Jember Regency has improved the effectiveness, accessibility, and inclusivity of civil registration services. Reductions in processing time, fewer document errors, and higher citizen satisfaction indicate that digital transformation can enhance administrative performance when supported by decentralized service delivery at the village level.

Beyond technological efficiency, the findings emphasize the importance of user-oriented design, community engagement, and institutional readiness. Inclusive system features, citizen feedback mechanisms, and local digital literacy initiatives strengthened service equity, while capacity-building programs and cross-department collaboration enabled civil servants to adapt to evolving digital governance practices.

The study contributes a rural digital governance model that integrates the strategic dimensions of Reinventing Government with the human-centered orientation of Society 5.0. The J-Lahbako case demonstrates that sustainable digital transformation depends not only on technological infrastructure but also on institutional alignment, community empowerment, and adaptive organizational culture. Practically, this model offers guidance for local governments seeking scalable and inclusive digital public service innovation.

However, the findings are based on a single regional case, which may limit broader generalization. Long-term sustainability also depends on consistent policy support, adequate resource allocation, and continuous capacity development. Future research should adopt comparative and longitudinal approaches to assess the wider applicability of village-based digital governance models in diverse administrative contexts.

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