

Bedas Digital Services as an E-Government Instrument in Population Administration: A Literature Review

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Abstract

This study examines the implementation of Bedas Digital Service (BDS) in Bandung Regency and identifies priorities for improving digital population administration services. A qualitative library research approach was adopted, drawing on scientific articles, books, regulations, policy documents, and official government publications. The collected information was examined using descriptive and thematic content analysis. During April–December 2024, BDS recorded 75,370 registered accounts and 278,706 service requests, including 178,175 non-booking requests and 100,531 Kartu Tanda Penduduk/KTP printing bookings. The synthesis identified four priorities: strengthening system and network reliability, improving cross-institutional data interoperability, developing human resource capacity, and expanding digital literacy and inclusive access. The reported figures indicate substantial platform utilization but do not independently demonstrate service effectiveness. Optimizing BDS requires coordinated improvements in technology, institutional processes, and citizens' ability to access digital services. Reliance on secondary sources prevents direct assessment of platform performance, service quality, and user experiences. The findings therefore require validation through primary empirical research. This study contributes to e-government literature by integrating technological, organizational, and community dimensions into a unified analytical framework. It conceptualizes digital service optimization as an interaction among infrastructure reliability, data interoperability, institutional capacity, and citizens' digital capabilities, offering a foundation for future research and policy development. The framework also emphasizes that inclusion depends on responsive administration alongside accessible digital systems.

Keywords: Bedas Digital Service, Digital Public Services, Digital Transformation, E-Government, Population Administration

1. INTRODUCTION

Digital transformation has become a fundamental pillar of government modernization and public service reform in Indonesia. This paradigm shift is manifested through the extensive integration of information technology into administrative processes, bureaucratic communication, and public service delivery channels. Under the framework of the Electronic-Based Government System or locally *Sistem Pemerintahan Berbasis Elektronik/SPBE*, the government seeks to promote bureaucratic integration oriented toward efficiency and quality of service. The achievement of the National SPBE Index in 2024, which reached 3.12 with a good rating and exceeded the 2020–2024 National Medium-Term Development Plan or locally *Rencana Pembangunan Jangka Menengah Nasional/RPJMN* target of 2.60 across 615 evaluated government institutions, indicates progress in the digitalization of the public sector ([Kementerian, 2025](#)). This achievement further highlights the strategic position of local governments in translating the broader mandate of digital transformation into public services that directly interact with the citizens.

Nevertheless, the expansion of bureaucratic digitalization should not be reduced merely to the proliferation of digital applications or platforms. The strategic orientation of SPBE evaluation emphasizes the development of integrated public services whose benefits are experienced by society ([Hauga, Dan, & Mergel, 2024](#); [Luna, Picazo-Vela, Buyannemekh, & Reyes, 2024](#)). Accordingly, the success of e-government should not be measured solely by the number of applications launched but also by the extent to which these systems reduce bureaucratic complexity, expand inclusive access, improve operational efficiency, and provide a comprehensive service experience. Although digitalization offers greater efficiency and convenience, it may also create vulnerabilities when it is not supported by reliable infrastructure, effective data integration, adequate human resources, and sufficient digital literacy among users ([Wilson & Mergel, 2022](#)).

Population administration represents a critical component of the public service system because it concerns citizens' access to essential identity and civil registration documents. Its scope includes family cards, electronic identity cards (KTP-el), child identity cards or locally Kartu Identitas Anak/KIA, civil registration certificates, and population mobility records, positioning this sector at the forefront of interaction between the state and its citizens ([Hidayat, 2025](#)). Digitalization in this domain offers opportunities to overcome conventional bureaucratic barriers, reduce dependence on face-to-face procedures, and provide greater flexibility in accessing public services. However, the transition from manual service models to digital systems requires a supportive institutional and technological environment, including reliable systems, transparent information, and competent public officials capable of operating digital technologies effectively ([Sabani, Thai, & Hossain, 2023](#)).

At the local level, the Bandung Regency Government has introduced digital public service innovation through the Bedas Digital Service (BDS) application. Designed as an integrated service channel, the BDS consolidates the various administrative needs of the community, particularly population administration and civil registration services. The platform reflects the local government's commitment to transforming conventional service processes into digital channels, thereby enabling citizens to access administrative services more independently. However, the availability of a digital platform does not guarantee effective, equitable, or sustainable implementation. Its performance also depends on the reliability of the underlying technology, the capacity of public institutions to manage digital services, and citizens' ability to access and use them.

Several studies have identified multidimensional challenges in the implementation of BDS. [Azimah, Putri, Putri, Fadhiilah, and Darmawan \(2025\)](#) examined BDS within the electronic-based government system framework and identified challenges involving infrastructure, data interoperability, and citizens' digital literacy. Their findings highlight technological and user-related conditions that may constrain the development of integrated digital public services. [Ekawati and Suganda \(2025\)](#) examined the implementation of BDS and its contribution to population administration services, reporting benefits associated with digital service delivery alongside technical and internet-network constraints. From the perspective of electronic service quality, [Nurjanah and Mahendra \(2022\)](#), who examined the Alpukat Betawi population administration platform, identified accessibility and efficiency as important service benefits while highlighting issues involving system quality, information quality, and service responsiveness. Although their research concerns a different platform, it provides a relevant comparative perspective for examining the quality of digital population administration services. ([Hidayat, 2025](#)) further examined factors influencing digital government implementation in population administration, including infrastructure, human resource capacity, institutional conditions, and citizens' technological understanding.

These studies provide valuable evidence regarding the technological, service quality, institutional, and community-related aspects of digital public service delivery. Nevertheless, their different analytical emphases raise a broader question regarding how these dimensions can be understood in relation to one another. Studies focusing on BDS have identified specific implementation challenges, including infrastructure constraints, interoperability issues, and disparities in digital literacy. Research on related population administration services has examined their accessibility, efficiency, information quality and institutional readiness. However, the literature reviewed in this study has not yet been sufficiently synthesized into an integrated analytical framework that explicitly connects technological reliability and interoperability, organizational capacity and service responsiveness, or citizens' digital literacy and inclusive access to digital public services. Therefore, the research gap does not lie in the absence of studies identifying BDS implementation challenges but in the need for a more integrated interpretation of how technological, organizational, and community conditions relate to the development of Digital Public Services (DPS).

Addressing this gap requires an analytical perspective that extends beyond the descriptions of individual implementation barriers. This study synthesizes existing academic literature and relevant government and policy documents concerning BDS implementation and digital government. The available evidence is categorized into three interrelated dimensions, such as technology, organization,

and community. The technological dimension encompasses system and network reliability, infrastructure, and data interoperability. The organizational dimension concerns bureaucratic capacity, institutional coordination, service responsiveness, and continuous improvement. The community dimension addresses citizens' digital literacy, inclusive access, and engagement with digital public services. By connecting these dimensions within a unified analytical framework, this study conceptualizes BDS as a digital public service ecosystem rather than merely a technological application.

The conceptual contribution of this study lies in integrating these three dimensions with a distinction between service adoption, effectiveness, and optimization. Adoption concerns the extent of platform utilization, whereas effectiveness relates to the quality, accessibility, reliability, and responsiveness of the service delivery. Optimization, as conceptualized in this study, requires consideration of how technological capabilities, organizational arrangements, and citizens' capabilities interact to support sustainable service improvements. This perspective extends the analysis beyond transaction volume or the availability of technological infrastructure by incorporating the institutional and social conditions necessary for inclusive Digital Public Services (DPS). Accordingly, the proposed framework provides an analytical basis for understanding the interdependence between technology, organizational capacity, and community participation in the development of regional e-government. Because this study relies on secondary sources, the framework represents a literature-based analytical contribution rather than an empirically validated model of BDS performance.

Based on this analytical position, this study aims to examine the implementation of *bedas* digital service as an e-government instrument for population administration services in Bandung Regency through a qualitative literature review. Specifically, it seeks to synthesize existing findings on BDS implementation, identify the principal technological, organizational, and community-related challenges, and develop an integrated analytical framework to inform further research and policy considerations. This study is expected to contribute to the discussion of regional digital governance by clarifying how these interrelated dimensions can be considered together when examining the development of accessible, reliable, responsive, and inclusive digital public services.

2. LITERATURE REVIEW

2.1 Digital Government and Public Service Transformation

Digital government represents a shift from the digitization of administrative procedures to the transformation of public-sector processes, organizational arrangements, and interactions between government institutions and citizens. This transformation involves not only the introduction of digital technologies but also changes in institutional routines, coordination mechanisms, and public service delivery. [Fischer, Heuberger, and Heine \(2021\)](#) explain that public-sector digitalization affects both operational efficiency and organizational practices, while [Hauga, Dan, and Mergel \(2024\)](#) emphasize changes in structures, routines, and interactions within public organizations. Similarly, [Escobar, Almeida, and Varajão \(2023\)](#) identify technological, organizational, managerial, and contextual factors as interconnected determinants of implementation outcomes through a systematic review of public-sector digital transformation.

These perspectives suggest that technological deployment alone cannot adequately explain the performance of digital government. The availability of an application may facilitate access to administrative services, but its practical value depends on whether government institutions can integrate the technology into existing workflows and whether citizens can use the resulting services effectively ([Hadamung & Rayyani, 2026](#)). Consequently, digital transformation should be understood as a process involving interdependent technological and institutional changes rather than the implementation of a standalone application.

For *Bedas* Digital Service (BDS), this perspective provides an initial analytical foundation for examining the relationship between digital infrastructure, institutional capacity, and citizens' experiences. A reliable application may reduce procedural barriers, but its contribution to public service delivery may remain limited when administrative processes are fragmented or citizens

encounter difficulties accessing digital services. Thus, the literature on digital government establishes the need for an integrated analytical perspective that considers the interaction between technology, organization, and community.

2.2 Digital Public Service Quality and Citizen Experience

The quality of digital public services concerns the extent to which digital systems provide accessible, reliable, responsive, and useful services to citizens. [Chan, Thong, Brown, and Venkatesh \(2021\)](#) identified service design characteristics, including accuracy, completeness, convenience, accessibility, privacy, security, user support, personalization, and transparency, as relevant to perceived service quality and citizen satisfaction. [Olesen, Wood, and Chong \(2021\)](#) further demonstrated that the determinants of e-government adoption differ between pre-adoption and post-adoption contexts. Their findings indicate that initial adoption and continued use should not be treated as equivalent outcomes. [Pham, Limbu, Le, and Nguyen \(2023\)](#) associate e-government service quality with perceived value, satisfaction, and loyalty, while [Selan, Amtiran, and Arthana \(2026\)](#) highlight the relationship between information and service quality, user satisfaction, and perceived efficiency.

Taken together, these studies suggest that digital service performance involves more than just the availability of a technological channel or the number of transactions processed. Transaction volume provides information about utilization, whereas service quality concerns the experience and outcomes associated with the service delivery ([Tantinadia, 2025](#)). A platform may attract substantial usage without necessarily providing consistent response times, accurate information, accessible procedures or satisfactory assistance to citizens ([Maska, 2025](#)).

This distinction is important for interpreting the BDS utilization. Registered accounts and transaction records can indicate that the platform has been used, but they cannot independently establish whether citizens receive timely services or experience fewer administrative barriers to access. Moreover, service quality depends on organizational processes, including how requests are handled, information is maintained, and user problems are resolved. Citizen experience also depends on whether individuals possess the resources and capabilities required to access the platform. Accordingly, the literature on digital service quality connects technological performance with organizational responsiveness and community accessibility, providing a basis for distinguishing adoption from effectiveness and optimization.

2.3 System Reliability, Interoperability, and Institutional Capacity

Digital population administration depends on the reliability of technical infrastructure, integration of information systems, and coordination among public institutions. [Wilson and Mergel \(2022\)](#) identified structural and cultural barriers that can impede digital government initiatives, demonstrating the need to address multiple implementation conditions rather than relying on technological solutions alone. [Margariti, Stamati, Anagnostopoulos, Nikolaidou, and Papastilianou \(2022\)](#) emphasized organizational interoperability as a component of effective public administration, while [Campmas, Jacob, and Simonelli \(2022\)](#) examined how interoperability frameworks can support the use of digital public services. [Scholta and Lindgren \(2023\)](#) further discussed proactive digital public services as an approach to reducing administrative burdens, and [Scholta, Halsbenning, and Niemann \(2025\)](#) highlighted coordination mechanisms connecting public organizations, shared services, and digital identities.

These studies address complementary but distinct aspects of the integration. Technical interoperability concerns the ability of systems to exchange and use information, whereas organizational interoperability concerns the alignment of processes, responsibilities, and institutional arrangements of the systems. Although they are related, the two are not interchangeable. A technically connected system may still produce fragmented services when agencies apply inconsistent procedures or lack clear coordination. Conversely, organizational coordination may be insufficient when technical systems cannot exchange accurate and timely information with each other ([Khasanah, Wijaya, & Sidik, 2025](#); [Anggraini, Rosalina, & Anggita, 2026](#)).

For BDS, these distinctions indicate that placing multiple service functions within a single application does not necessarily establish an integrated public service. Effective integration requires the alignment of infrastructure, data exchange, administrative workflows, and institutional responsibilities. System reliability supports the continuity of digital access, whereas organizational capacity determines how effectively digital requests are processed and problems are resolved. Therefore, these dimensions are interdependent: technical improvements may have limited effects when institutional processes remain fragmented, while organizational reforms may be constrained by unreliable infrastructure or incompatible systems. This relationship provides a basis for incorporating both technical reliability and institutional capacity into the proposed framework. Rather than treating interoperability as an isolated technical requirement, the framework positions it at the intersection of technology and organization, where system integration must be accompanied by coordinated administrative processes.

2.4 Digital Literacy, Trust, and Inclusive Access

Digital transformation can expand access to government services, however, its benefits may be distributed unevenly when citizens have different levels of digital capability, access to devices, Internet connectivity, or confidence in online transactions. [Mesa \(2023\)](#) highlights the relationship between educational inequalities and citizens' engagement with digital public services, while [Giest and Samuels \(2023\)](#) discuss the role of social support infrastructure in helping citizens who experience difficulties accessing digital services. [Peeters, Miller, and Schuilenburg \(2025\)](#) similarly emphasized the inclusion in digital government and the importance of ensuring that citizens can participate in and benefit from government automation.

Research on adoption also indicates that citizens' decisions are shaped by several interrelated considerations. [Al-Mamary and Alshallaqi \(2023\)](#) identify perceived compatibility, awareness, resources, information quality, trust, functional benefits, and service response as relevant to inclusive digital-government adoption. [Li \(2021\)](#) finds that trust in government and trust in the Internet are positively associated with e-government adoption, while perceived risk may weaken adoption. [AbdulKareem and Oladimeji \(2024\)](#) likewise identify trust and digital literacy as relevant to citizens' use of e-government services. These findings indicate that digital inclusion cannot be achieved solely by improving the technical availability of platforms. Citizens must also understand the procedures, access the necessary resources, trust the service environment, and obtain assistance when difficulties arise. However, limited use should not be automatically interpreted as evidence of low digital literacy, as citizens may face infrastructure constraints, limited information, or administrative barriers.

In the context of BDS, community-related factors are connected to both technological and organizational conditions. Reliable systems and clear information can strengthen citizens' confidence, while assistance from public officials can reduce the difficulties experienced by users with limited digital skills. Inclusive access also requires service arrangements that accommodate citizens who cannot independently use digital channels. The literature consequently supports treating digital literacy, trust, and citizen engagement as integral dimensions of digital public service development rather than as secondary issues that can be addressed only after technological implementation.

2.5 Data Governance, Transparency, and Public Value

Digital public services increasingly depend on the sharing, management, and integration of information across organizational boundaries ([Matheus, Janssen, & Janowski, 2021](#)). [Matheus et al. \(2021\)](#) explain that digital transparency requires appropriate organizational arrangements in addition to technological tools. [Distel, Koelmann, Plattfaut, and Becker \(2022\)](#) identify trust and risk as important considerations in e-government, while [Ruijter, Porumbescu, Porter, and Piotrowski \(2023\)](#) highlight the implications of data-driven public services for social equity, including differences in access, treatment, service quality, and outcomes. [Luna, Picazo-Vela, Buyannemekh, and Reyes \(2024\)](#) examine public value from citizens' perspectives, emphasizing individual benefits as well as broader values such as transparency, accountability, and equity. [Manda \(2022\)](#) further argues that public-sector digital transformation requires institutional change rather than technology implementation alone.

These perspectives indicate that data governance connects technological integration with institutional accountability and citizen outcomes. Data sharing can improve administrative coordination and reduce repetitive procedures, but its contribution depends on the quality, security, appropriate use, and management of information. Inadequate governance may undermine public trust, even when a digital platform is technically functional. Similarly, the availability of digital information does not automatically ensure transparency if citizens cannot understand or use it to access services ([Nwosu, Nwokoye, Ngwube, Mbamalu, & Egbunike, 2026](#)).

Therefore, for the BDS, data governance should be considered alongside system reliability, institutional coordination, and inclusive access. Interoperability can support more consistent administrative processes, and appropriate information management and transparency can strengthen accountability and public confidence in the system. However, these benefits should not be assumed to have been achieved merely because the BDS consolidates service functions on a digital platform. They represent the dimensions through which the development of the BDS can be analytically examined. This perspective also broadens the meaning of optimization. Rather than focusing exclusively on technical performance or transaction growth, optimization should consider whether digital service arrangements support reliable processes, accountable administration, equitable access, and public values. These considerations link the technological and organizational dimensions of the proposed framework to its community-oriented outcomes.

2.6 E-Government Adoption and the Bandung Regency Context

The Indonesian context illustrates that citizens' adoption of e-government is influenced by both technological and institutional factors. [Sabani, Thai, and Hossain \(2023\)](#) identified performance expectancy, effort expectancy, system quality, and perceived transparency as important factors in e-government adoption in Indonesia, while security, information quality, facilitating conditions, and government encouragement also contribute to the adoption context. [Farida and Lestari \(2021\)](#) describe e-government as a public-service innovation that can improve efficiency, accessibility, transparency, accountability, and participation.

In Bandung Regency, [Ekawati and Suganda \(2025\)](#) report the benefits associated with BDS implementation alongside system and Internet network constraints. [Azimah, Putri, Putri, Fadhiilah, and Darmawan \(2025\)](#) identify interoperability, infrastructure, and digital-literacy challenges in BDS implementation within the SPBE framework. [Hidayat \(2025\)](#) further identifies human resource capacity, regulation, infrastructure, finance, and information and communication technology as relevant factors in digital government implementation in population administration. [Nurjanah and Mahendra \(2022\)](#), although examining a different Indonesian population administration platform, provide additional evidence concerning system access, reliability, information quality, and service responsiveness.

Local evidence reflects several connected implementation issues rather than a single technical problem. Infrastructure constraints can affect the availability of digital services, while interoperability and institutional capacity influence the continuity of administrative processes. Meanwhile, citizens' digital capabilities and access conditions affect their ability to benefit from the services provided. These issues suggest that the development of BDS cannot be understood adequately by examining adoption or technical performance in isolation.

Nevertheless, the available studies differ in their research focus, analytical approaches, and units of analysis. Findings from related digital service platforms provide useful comparative insights but cannot automatically be treated as direct evidence of BDS performance. Similarly, operational records can describe utilization but do not independently establish user satisfaction, service effectiveness, or the extent of digital inclusion. These distinctions reinforce the need for a literature-based framework that organizes existing findings while acknowledging the limits of the available evidence.

2.7 Theoretical Foundation and Integrated Analytical Framework

The proposed framework draws on a synthesis of digital government transformation, information systems and service quality, organizational interoperability, and digital inclusion literature. These perspectives address different, but complementary, aspects of digital public service delivery. Digital government research explains the institutional and organizational changes associated with technology adoption, information system and service quality research highlights the relationship between system characteristics and citizens' experiences, interoperability research addresses coordination across technical and organizational boundaries, and digital inclusion research emphasizes the capabilities and conditions required for citizens to access and benefit from digital services. Taken together, these perspectives support a socio-technical interpretation of digital public services, in which technology, organizational arrangements, and community capabilities are treated as interdependent dimensions. The framework does not assume that any dimension independently determines service outcomes. Instead, it provides an analytical structure for examining how conditions within one dimension may enable or constrain others.

The technological dimension encompasses infrastructure availability, system and network reliability, information security, and data interoperability. These conditions support the continuity of digital services and the exchange of information across administrative systems. However, technological capabilities must be translated into functioning services through organizational processes. Therefore, the organizational dimension encompasses institutional capacity, coordination, service responsiveness, and continuous improvement. These elements influence the incorporation of technical capabilities into administrative workflows and the management of service requests. The community dimension encompasses digital literacy, inclusive access, trust, and citizen engagement. It addresses whether citizens can access, understand, and benefit from the services provided to them.

The relationships among the three dimensions are reciprocal rather than strictly sequential. Reliable systems and accessible information may support citizens' confidence in digital services, whereas user experiences and service requests can identify areas requiring organizational or technological improvement. Institutional coordination can improve the consistency of digital services, whereas community assistance and feedback can help public organizations identify access barriers. Conversely, weaknesses in infrastructure, institutional processes, or citizens' access conditions may constrain the contribution of the other dimensions. The framework emphasizes the interaction among these conditions instead of treating them as independent success factors.

The proposed framework also distinguishes service adoption, service effectiveness, and service optimization as related but analytically different concepts. Adoption concerns the extent of platform utilization and can be described using available indicators, such as registered accounts and transaction volumes. Effectiveness concerns the quality-of-service delivery, including accessibility, reliability, responsiveness, and the handling of administrative requests. Optimization represents a broader analytical objective that considers whether technological capabilities, organizational arrangements, and community access conditions are aligned to support sustained service improvement and public value. This distinction is important because utilization figures alone cannot establish whether a digital service is effective or optimized. Likewise, improvements in individual technical indicators do not necessarily demonstrate that institutional coordination or inclusive access has improved. The framework provides a basis for examining both the extent of digital service utilization and the technological, organizational, and community conditions that may influence the quality and inclusiveness of service delivery.

Compared with existing digital government and information system perspectives, the proposed framework does not claim to replace established theories or introduce an entirely new theory of e-government. Its contribution lies in integrating insights from these complementary perspectives into a context-oriented analytical framework for BDS. Whereas information system perspectives provide a basis for examining system and service quality, and digital government research addresses institutional transformation and public value, the proposed framework explicitly brings these considerations together with community capabilities and inclusive access. It also connects these

dimensions with the distinction between adoption, effectiveness, and optimization, allowing the analysis to move beyond the description of individual implementation challenges. Accordingly, the framework is intended as a literature-based analytical proposition for examining BDS development rather than as a causal model or an empirically validated measurement instrument. Its value lies in organizing existing evidence, clarifying the relationships among major implementation dimensions, and identifying areas for further empirical assessment.

2.8 Research Gap and Analytical Position

Previous research has examined digital government from several perspectives, including adoption, service quality, interoperability, institutional capacity, digital inclusion, trust, and public value. Studies focusing on BDS have identified specific implementation challenges, while research on related digital services has provided additional insights into system quality, organizational readiness, and citizen experiences. However, the available evidence has not yet been sufficiently synthesized in the context examined in this study into an analytical framework that explicitly connects technological, organizational, and community dimensions.

The present study addresses this gap by synthesizing academic literature and relevant government and policy documents concerning BDS implementation and digital government. The analysis positions system reliability, infrastructure, interoperability, and security within the technological dimension, institutional capacity, coordination, responsiveness, and continuous improvement within the organizational dimension, and digital literacy, inclusive access, trust, and citizen engagement within the community dimension. These dimensions are examined as interdependent conditions rather than separate lists of implementation factors.

The analytical contribution of this study is twofold. First, it integrates complementary insights from digital government, information system quality, interoperability, and digital inclusion literature into a unified framework for examining BDS development. Second, it distinguishes adoption from effectiveness and optimization, emphasizing that transaction volume does not independently demonstrate service quality or inclusive public value. This perspective provides a basis for interpreting existing evidence and identifying priorities for future policy development and empirical research.

Because this study relies on secondary sources, the framework should be understood as a conceptual synthesis of existing evidence rather than a direct evaluation of current BDS performance. Differences in the scope, measurement periods, and analytical approaches of the reviewed studies also limit the extent to which their findings can be directly compared. These limitations make further empirical investigation necessary to assess how the proposed dimensions interact in actual service delivery and how they relate to citizens' experiences and administrative outcomes.

3. RESEARCH METHODOLOGY

3.1 Research Approach and Design

This study employed a qualitative approach using library research to examine the implementation of Bedas Digital Service (BDS) as an e-government instrument for population administration services in Bandung Regency. This approach was selected because the study focused on synthesizing existing academic literature, regulatory frameworks, policy documents, and official government publications rather than collecting primary data through interviews, surveys, or direct field observations. According to [Snyder \(2019\)](#), literature reviews provide a systematic foundation for synthesizing existing knowledge and identifying research gaps. The analysis aimed to identify recurring implementation challenges and develop an integrated perspective on the technological, organizational, and community dimensions of digital public service development. The research process comprised four stages: identifying relevant sources, screening and selecting documents, extracting and categorizing information, and synthesizing findings through thematic content analysis. These analytical procedures are consistent with [Braun and Clarke \(2006\)](#), who emphasize identifying, analyzing, and interpreting recurring patterns within qualitative data. These stages established a

transparent connection between documentary evidence, analytical categories, and the proposed framework for understanding BDS development.

3.2 Data Sources

This study used secondary data obtained from two principal source groups. The first consisted of academic publications, including scientific journal articles and scholarly books addressing digital government, e-government adoption, digital public service quality, information system reliability, interoperability, institutional capacity, digital literacy and public value. The second consisted of official documents, including relevant regulations, government policy documents, publications from the Ministry of Administrative and Bureaucratic Reform or locally *Kementerian Pendayagunaan Aparatur Negara dan Reformasi Birokrasi/KemenPANRB*, Bandung Regency Government publications, and documents issued by the Bandung Regency Population and Civil Registration Office or locally *Dinas Kependudukan dan Pencatatan Sipil/Disdukcapil*. Academic sources were used to establish the theoretical and analytical foundations of the study, whereas government documents were used to contextualize the implementation of the BDS and examine available operational information. The two source groups were considered complementary because academic publications provided conceptual and analytical perspectives, whereas official documents provided information about the policy and administrative context of digital population administration services.

3.3 Literature Search and Data Collection

The literature search was conducted using combinations of keywords related to the research objectives of this study. These included e-government, digital government, digital public services, population administration, electronic-based government system or SPBE, Bedas Digital Service or BDS, system interoperability, digital literacy, and public service quality. Search terms were combined, where appropriate, to identify publications addressing either BDS specifically or the broader theoretical and institutional context of digital population administration. The search covered academic databases, scholarly repositories, and official government websites. The specific databases and repositories, search dates, and publication period were documented to establish the scope of the literature search. The search results were recorded and assessed for relevance to the research objectives before the full-text selection stage.

The literature selection process followed predefined inclusion and exclusion criteria. Sources were considered eligible when they addressed digital government, electronic public services, population administration, or one or more of the analytical dimensions relevant to BDS, provided identifiable bibliographic or institutional information, and contained substantive findings, conceptual arguments, policy provisions, or official information relevant to the research questions. Publications that specifically discussed BDS were prioritized when examining local implementation conditions, while studies of other digital government platforms were considered when they contributed relevant theoretical or comparative insights.

Sources were excluded when they were unrelated to the research objectives, duplicated another record, lacked sufficient information to establish their provenance, or did not provide substantive information relevant to the analysis. For official documents, relevance was assessed according to the issuing institution, document type, policy or administrative scope, and connection with digital public services or population administration. The screening process involved reviewing search results for relevance, examining titles and abstracts or document summaries where available, and assessing the full text of potentially eligible sources. The number of records identified, duplicates removed, records screened, full-text documents assessed, and documents included in the final analysis were recorded to provide a transparent account of source selection.

3.4 Data Analysis

The selected documents were analyzed using descriptive and thematic analyses. The analysis proceeded through repeated reading of the selected materials, extraction of relevant information, coding of substantive findings, categorization of codes into broader themes, and synthesis across sources. The purpose of this study was to identify recurring patterns, differences in analytical

emphasis, and relationships among the factors associated with digital public service development. The thematic categories were developed through a combination of theory-informed and evidence-informed analysis. The initial categories were informed by the literature on digital government transformation, information system and service quality, interoperability, institutional capacity, digital inclusion, and public value. During the analysis, these categories were examined against the content of the selected documents, and additional codes were incorporated when recurring issues were not adequately represented by the initial categories.

The resulting analytical structure comprised three interconnected dimensions. The technological dimension included system and network reliability, infrastructure, information security, and data interoperability. The organizational dimension covered institutional capacity, coordination, service responsiveness, and continuous improvement. The community dimension encompassed digital literacy, inclusive access, trust, and citizen engagement. These dimensions were used as analytical categories rather than empirically validated variables.

The analysis also distinguished between service adoption, effectiveness, and optimization. Adoption was examined using available indicators of platform utilization, such as registered accounts and recorded transactions. Service effectiveness was considered in relation to the reported quality, accessibility, reliability, and responsiveness of the service delivery. Optimization is interpreted as a broader analytical concept involving the interaction among technological conditions, organizational arrangements, and community capabilities. Because the study relied on secondary sources, these distinctions were used to organize and interpret existing evidence rather than to measure causal relationships or establish the actual performance of BDS through direct empirical testing.

3.5 Source Triangulation and Reliability

Source triangulation was used to assess the consistency and contextual relevance of information obtained from different documentary sources. Findings reported in academic publications were compared with relevant official government documents when corresponding information was available. Particular attention was given to the consistency of reported implementation challenges, provenance of operational data, institutional context of policy statements, and differences in the scope or measurement of reported indicators.

When multiple sources addressed the same issue, their findings were compared to identify areas of agreement, complementary explanations or differences in emphasis. Where information could not be independently corroborated, it was interpreted cautiously and not treated as conclusive evidence of current BDS performance. Quantitative indicators drawn from different sources were also examined in relation to their observation periods, definitions, and units of analysis before being used in the synthesis process. This procedure was intended to strengthen the credibility of the analysis by reducing the reliance on individual sources and making the basis for interpretation more explicit. The resulting findings were presented thematically, with the proposed three-dimensional framework understood as a synthesis of existing documentary evidence rather than a model validated through primary data.

4. RESULTS AND DISCUSSION

4.1 Development of Bedas Digital Service Utilization

The reviewed sources report that the Bedas Digital Service (BDS) recorded 75,370 registered citizen accounts and 278,706 service requests from April to December 2024. The requests comprised 178,175 non-booking service requests and 100,531 KTP-printing booking requests. Table 1 describe platform registration and recorded service activity but do not represent the number of unique individuals who used each service. Administrative data indicate that non-booking requests accounted for approximately 63.94% of all recorded requests, whereas KTP-printing bookings accounted for approximately 36.06%. The reported average of approximately 3.70 requests per registered account is a ratio between aggregate requests and registered accounts, rather than evidence that each account corresponds to a distinct individual or that all requests were successfully completed.

Table 1. Recapitulation of BDS utilization in population administration services in Bandung Regency, 2024

Indicator	Value
Observation period	April–December 2024
Registered citizen accounts	75,370 accounts
Total BDS service requests	278,706 requests
Non-booking service requests	178,175 requests
KTP printing booking requests	100,531 requests
Average requests per account	±3.70 requests/account
Proportion of non-booking services	±63.94%
Proportion of KTP printing bookings	±36.06%

Descriptively, the largest share of recorded requests concerned non-booking services. This distribution indicates that the recorded activity was not limited to KTP-printing appointments. It does not, by itself, establish the range of unique services completed, processing efficiency, user satisfaction, or the overall effectiveness of BDS.

4.2 Fluctuation in BDS Utilization at the Subdistrict Level

At the subdistrict level, the reviewed local evidence recorded 3,284 online population-administration service transactions in Margahayu from July to December 2024. Monthly transaction volumes varied, reaching their highest reported level in October and lowest in November.

Table 2. Online population administration services in Margahayu District, July–December 2024

Month	Number of Services
July 2024	576
August 2024	569
September 2024	626
October 2024	628
November 2024	412
December 2024	473
Total	3,284
Monthly average	547.3

Table 2 shows the descriptive series shows that the monthly transaction volume did not increase continuously. It declined from 628 transactions in October to 412 in November and rose to 473 in December. These data establish variation in recorded activity but do not identify its cause. Explanations involving public awareness, administrative demand, network availability, or system performance remain possibilities requiring further evidence.

4.3 Clarification of Population Comparison

Table 3 shows the source manuscript compared the population of Bandung Regency with 178,175 and labelled the latter as recorded BDS users. However, the same manuscript identifies 178,175 as non-booking service requests. A request is an administrative activity, whereas a population is a count of persons, the two measures are not equivalent. Consequently, the number of residents not reached by BDS and the proportion of the population using BDS cannot be calculated from these figures.

Table 3. Comparison of BDS users and population of Bandung Regency, 2024

Indicator	Value	Interpretation
Population of Bandung Regency	3,723,179 persons	The population count was reported in the source manuscript.

Indicator	Value	Interpretation
Registered BDS accounts	75,370 accounts	Account registration measure; not necessarily a count of unique active users.
Non-booking service requests	178,175 requests	Number of requests, not the number of users.
Total BDS service requests	278,706 requests	Aggregate service activity during April–December 2024
Population penetration rate based on 178,175	Not calculated	The request count cannot be divided by the population to infer a user penetration rate.
Difference between population and BDS users	Not calculated	A valid unique user count is not established by the reported request data.

The corrected comparison avoids the interpretation of service requests as individual users. To estimate population coverage, the authors would need a verified count of unique BDS users for a defined period and a compatible population denominator. Until such a measure is available, claims regarding the percentage of Bandung Regency residents reached by BDS should be avoided.

4.4 Implementation Stages and Service Development

According to local government information cited in the source manuscript, internal testing of the BDS began in March 2024, followed by online service implementation in April 2024. In July 2024, offline services were consolidated at the Public Service Mall or locally *Mall Pelayanan Publik/MPP* in the district of Buleleng. By August 2024, online services were distributed across the agency and subdistrict levels, facilitated through MPPs, subdistricts, and villages/urban villages. These stages describe the expansion of service arrangements from internal testing to operational implementation and the use of multiple access channels. Chronology alone does not establish whether the changes improved processing times, service quality, or user satisfaction; these outcomes would require separate performance evidence.

4.5 Synthesis of Quantitative Findings

Table 4 consolidates the administrative figures reported in the reviewed studies. It distinguishes registration, service requests, and local transactions to avoid treating them as interchangeable metrics. The table presents BDS utilization data, including 75,370 registered accounts and 278,706 service requests during April–December 2024, with non-booking requests accounting for the largest proportion (63.94%). In Margahayu, 3,284 transactions were recorded from July to December 2024, averaging 547.3 transactions per month, with the highest volume in October and the lowest in November. These findings indicate substantial digital service utilization and monthly variations, although the figures do not establish service effectiveness, successful completion rates, or the proportion of unique users.

Table 4. Synthesis of quantitative data on BDS implementation

Measure	Reported data	Descriptive interpretation
Registered accounts (April–December 2024)	75,370	Reported account registration base
Total BDS service requests	278,706	Aggregate service-request volume
Non-booking service requests	178,175 (63.94%)	Largest reported category of requests, not unique user
KTP-printing booking requests	100,531 (36.06%)	Recorded booking requests for KTP printing were recorded
Requests per registered account	Approximately 3.70	Aggregate ratio, not a measure of successful completion or unique-user frequency
Margahayu transactions (July–December 2024)	3,284	The total local transaction for the specified period
Margahayu monthly average	547.3	Mean monthly transaction volume

Measure	Reported data	Descriptive interpretation
Highest and lowest monthly volumes	628 in October, 412 in November	Observed monthly variation, cause not established by the figures
Population of Bandung Regency	3,723,179 persons	Population context cannot be directly compared with request counts

The descriptive synthesis shows substantial recorded activity on BDS and variation in local transaction volume. It does not establish that adoption is evenly distributed across the regency because the available figures differ in geographical coverage and measurement unit. Transaction totals do not independently demonstrate service effectiveness or optimization.

4.6 Empirical Findings from Previous Studies

The reviewed literature reports several implementation-related findings, including infrastructure constraints, service quality issues, local variation, interoperability, and digital-literacy challenges.

Table 5 summarizes these reports as presented in the source manuscript. Descriptions should be checked against the cited original publications before submission, particularly where the author, study focus, or numerical results may not align with the reference list.

Table 5. Findings from previous studies and their implications for BDS

Source as cited in manuscript	Research focus	Reported finding in the source manuscript	Implication identified by the authors
Ekawati and Suganda (2025)	BDS e-government implementation	A total of 75,370 accounts and 278,706 requests were reported, along with server and network constraints.	System and network reliability warrant further attention.
Maska (2025)	BDS system success	Accessibility and efficiency are described alongside technical, informational, and response barriers.	System quality, information quality, and responsiveness warrant examination, verify the cited source.
Ekawati and Suganda (2025)	BDS innovation and m-service	The source manuscript reported $p = 0.001$, $t = 10.113$, and a positive contribution of 51.1%.	Statistical results and their attribution should be checked against the original publication before use.
Tantinadia (2025)	BDS in Margahayu District	3,284 services from July to December 2024, with monthly fluctuations.	The local transaction volume varies over time, but the cause is not established by the counts.
Azimah et al. (2025)	BDS within the SPBE framework	Interoperability, infrastructure, and digital literacy challenges have been reported.	System integration and public education are relevant areas for further research.

The literature synthesis indicates a distinction between adoption and optimization success. Although BDS has been adopted and utilized at a considerable scale, technical reliability, information quality, digital literacy, and interoperability remain important challenges.

4.7 Discussion

4.7.1 Interpreting BDS Utilization

Administrative data show that the BDS recorded 75,370 registered accounts and 278,706 service requests from April to December 2024. These figures establish the scale of reported registration and service activity; however, they should not be interpreted as direct measures of unique users, completed services, satisfaction, or overall service effectiveness. In particular, the 178,175 non-booking service requests reported in Table 1 are not equivalent to the 178,175 individual users. This

distinction is important because a single person may generate multiple requests, and an account count does not necessarily equal the number of active or unique residents served by the system. The Margahayu data provide a more localized description of recorded activity, with monthly counts varying between 412 and 628 transactions during July–December 2024. This variation is a descriptive finding rather than proof of a change in public interest or technical reliability. Explanations for the monthly pattern would require additional evidence, such as records of service demand, outreach activities, system availability, or administrative changes.

4.7.2 Technology, Organization, and Community as Interdependent Dimensions

The literature synthesis identified three interrelated dimensions for analyzing BDS: technology, organization, and community. The technological dimension includes system and network reliability, infrastructure availability, data interoperability, and security. The organizational dimension concerns bureaucratic coordination, personnel capacity, service responsiveness, and continuous organizational improvement. The community dimension encompasses digital literacy, inclusive access, public trust and citizen engagement.

The reviewed literature supports the consideration of these dimensions together rather than treating digital public service development as a purely technical task. System reliability and interoperability are relevant to the continuity and integration of service processes, organizational capacity is relevant to how digital systems are managed and supported, and citizen capabilities and access conditions are relevant to whether the service can be used inclusively. These relationships form an analytical synthesis of the literature review. These are not causal effects measured in the present study.

4.7.3 Theoretical Contribution: From Adoption to Optimization

The study's distinct theoretical contribution is an integrated analytical framework that connects technological conditions, organizational capacity, and community inclusion in the analysis of e-government optimization. Previous studies cited in the manuscript address specific elements, such as e-government implementation, information-system quality, infrastructure barriers, interoperability, and digital literacy. The proposed framework brings these elements into a shared structure and emphasizes their interdependence when considering the further development of a local digital public service.

The framework also distinguishes adoption, effectiveness, and optimization. Adoption concerns the extent of platform use and can be described using registration and transaction measures, provided their units are clearly defined. Effectiveness concerns service qualities such as reliability, accessibility, responsiveness, and service completion. Optimization refers to coordinated attention to the technological, organizational, and community dimensions, including continuous improvement. This distinction helps prevent transaction volume from being treated as sufficient evidence of successful digital transformation. The framework is a conceptual synthesis derived from the literature reviewed in this study, it is not a newly validated theory or empirically tested model. Its contribution is to organize the reported implementation challenges into a coherent analytical perspective that can guide future empirical evaluations and policy discussions.

4.7.4 Optimization Implications for the Further Development of BDS

The literature synthesis identifies four areas for consideration in the further development of BDS: strengthening system and network reliability, improving data and process interoperability, enhancing institutional and human-resource capacity, and supporting digital literacy and inclusive access. These areas recur in the sources reviewed and are therefore literature-supported priorities for further investigation. The present study does not measure the severity of each issue in current BDS operations and cannot rank them by actual performance impact.

For future evaluation, administrative transaction data should be analyzed alongside measures of system availability, processing time, completion rates, user satisfaction, complaint handling, accessibility, and service use across locations and population groups. Such measures would allow

researchers and administrators to distinguish the volume of service activity from the quality and inclusiveness of the service outcomes. This study identified these as potential directions for evaluation rather than claiming that these outcomes have already improved.

5. CONCLUSIONS

5.1 Conclusion

This study contributes an integrated analytical framework for understanding e-government optimization through three interrelated dimensions: technology, organization, and the community. By connecting system reliability and data interoperability with institutional capacity, service responsiveness, digital literacy, and inclusive access, the framework extends the analysis of digital government beyond platform adoption and transaction volumes. It also distinguishes adoption, effectiveness, and optimization as related but conceptually distinct aspects of digital public service development.

The literature synthesis identified four recurring priorities for the further development of Bedas Digital Service (BDS), such as strengthening system and network reliability, improving data interoperability, enhancing institutional capacity, and supporting digital literacy and inclusive access. The reported figures of 75,370 registered accounts and 278,706 service requests from April to December 2024 describe platform registration and service activity, they do not independently demonstrate service effectiveness or optimal performance. Accordingly, the proposed framework should be understood as a literature-based analytical contribution, rather than an empirically validated model of BDS performance.

5.2 Research Limitations

This study relied on secondary sources, including scientific publications and government documents, and did not directly examine the experiences of BDS users, government operators, or other stakeholders. Differences in reporting periods, indicators, and units of analysis also limit direct quantitative comparisons. Therefore, the findings represent a synthesis of available evidence rather than a direct assessment of current BDS performance.

5.3 Suggestions and Directions for Future Research

Future development and evaluation of BDS should consider system reliability, data interoperability, institutional capacity, digital literacy, and inclusive access as interconnected priorities. Future empirical research involving service users, government officials, and administrative records could assess service completion, processing time, responsiveness, user satisfaction, and accessibility across different populations. Quantitative studies could examine factors associated with adoption and continued use, while qualitative and comparative studies could investigate institutional coordination, user experience, and barriers to digital inclusion. Such research would provide the empirical basis needed to assess the proposed framework and determine how the identified dimensions relate to actual service outcomes.

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AUTHOR CONTRIBUTIONS

NDP conceived the study, designed the study, conducted the literature review and data collection, and wrote the first draft of the manuscript. HN contributed to the study design, data analysis, interpretation of the findings, and revision of the manuscript. MDEM contributed to the

study design, interpretation of the findings, and critical revision of the manuscript. All authors approved the final version of the manuscript and agreed to be accountable for all aspects of the work, ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

REFERENCES

- AbdulKareem, A. K., & Oladimeji, K. A. (2024). Cultivating the digital citizen: Trust, digital literacy and e-government adoption. *Transforming Government: People, Process and Policy*, 18(2), 270-286. <https://doi.org/10.1108/TG-11-2023-0196>
- Al-Mamary, Y. H., & Alshallaqi, M. (2023). Making digital government more inclusive: An integrated perspective. *Social Sciences*, 12(10), 557. <https://doi.org/10.3390/socsci12100557>
- Anggraini, L., Rosalina, E., & Anggita, W. (2026). Internal control, HR competence, and PNPB financial reporting reliability in South Bangka Agencies. *Studi Akuntansi Dan Bisnis Indonesia*, 2(2), 93-105. <https://doi.org/10.61401/sabi.v2i2.492>
- Azimah, F., Putri, F. S. W., Putri, N. A., Fadhiilah, S. M., & Darmawan, I. (2025). Analisis inovasi dan tantangan Sistem Pemerintahan Berbasis Elektronik (SPBE) dalam pemanfaatan Bedas Digital Service (BDS) di Kabupaten Bandung. *Menulis: Jurnal Penelitian Nusantara*, 1(12), 1063-1070. <https://doi.org/10.59435/menulis.v1i12.900>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Campmas, A., Iacob, N., & Simonelli, F. (2022). How can interoperability stimulate the use of digital public services? An analysis of national interoperability frameworks and e-Government in the European Union. *Data & Policy*, 4(19). <https://doi.org/10.1017/dap.2022.11>
- Chan, F. K. Y., Thong, J. Y. L., Brown, S. A., & Venkatesh, V. (2021). Service design and citizen satisfaction with e-government services: A multidimensional perspective. *Public Administration Review*, 81(5), 874-894. <https://doi.org/10.1111/puar.13308>
- Distel, B., Koelmann, H., Plattfaut, R., & Becker, J. (2022). Watch who you trust! A structured literature review to build a typology of e-government risks. *Information Systems and E-Business Management*, 20, 789-818. <https://doi.org/10.1007/s10257-022-00573-4>
- Ekawati, S., & Suganda, D. (2025). Implementasi e-government Bedas Digital Service (BDS) terhadap peningkatan pelayanan kependudukan di Kabupaten Bandung. *Journal Publicuho*, 8(4), 2675-2686. <https://doi.org/10.35817/publicuho.v8i4.1001>
- Escobar, F., Almeida, W. H. C., & Varajão, J. (2023). Digital transformation success in the public sector: A systematic literature review of cases, processes, and success factors. *Information Polity*, 28(1), 61-81. <https://doi.org/10.3233/IP-211518>
- Farida, I., & Lestari, A. (2021). Implementation of e-government as a public service innovation in Indonesia. *RUDN Journal of Public Administration*, 8(1), 72-79. <https://doi.org/10.22363/2312-8313-2021-8-1-72-79>
- Fischer, C., Heuberger, M., & Heine, M. (2021). The impact of digitalization in the public sector: A systematic literature review. *DMS: Der Moderne Staat*, 14(1), 3-23. <https://doi.org/10.3224/dms.v14i1.13>
- Giest, S., & Samuels, A. (2023). Administrative burden in digital public service delivery: The social infrastructure of library programs for e-inclusion. *Review of Policy Research*, 40(5), 626-645. <https://doi.org/10.1111/ropr.12516>
- Hadaming, I., & Rayyani, W. O. (2026). Greenwashing and financial performance of publicly listed manufacturing companies in Makassar. *Riset Akuntansi Dan Bisnis Indonesia*, 2(3), 183-196. <https://doi.org/10.61401/rabi.v2i3.586>
- Hauga, N., Dan, S., & Mergel, I. (2024). Digitally-induced change in the public sector: A systematic review and research agenda. *Public Management Review*, 26(7), 1963-1987. <https://doi.org/10.1080/014719037.2023.2234917>

- Hidayat, R. (2025). Critical factors influencing the implementation of digital government: The case of population administration service. *Jurnal Manajemen Pelayanan Publik*, 9(3), 710-726. <https://doi.org/10.24198/jmpp.v9i3.64366>
- Kementerian Pendayagunaan Aparatur Negara dan Reformasi Birokrasi. (2025). *Laporan pelaksanaan evaluasi Sistem Pemerintahan Berbasis Elektronik (SPBE) tahun 2024*.
- Khasanah, U., Wijaya, L. R. P., & Sidik, M. M. A. (2025). The effect of dividend policy, earnings volatility, and leverage on stock price volatility. *Goodwood Akuntansi Dan Auditing Reviu*, 4(1), 17-30. <https://doi.org/10.35912/gaar.v4i1.5232>
- Li, W. (2021). The role of trust and risk in citizens' e-government services adoption: A perspective of the extended UTAUT model. *Sustainability*, 13(14), 7671. <https://doi.org/10.3390/su13147671>
- Luna, D. E., Picazo-Vela, S., Buyannemekh, B., & Reyes, L. F. (2024). Creating public value through digital service delivery from a citizen's perspective. *Government Information Quarterly*, 41(2), 101928. <https://doi.org/10.1016/j.giq.2024.101928>
- Manda, M. I. (2022). Power, politics, and the institutionalisation of information systems for promoting digital transformation in the public sector: A case of the South African's government digital transformation journey. *Information Polity*, 27(3), 311-329. <https://doi.org/10.3233/IP-200233>
- Margariti, V., Stamati, T., Anagnostopoulos, D., Nikolaidou, M., & Papastilianou, A. (2022). A holistic model for assessing organizational interoperability in public administration. *Government Information Quarterly*, 39(3), 101712. <https://doi.org/10.1016/j.giq.2022.101712>
- Maska, V. A. (2025). *Implementasi Bedas Digital Service dalam pelayanan kependudukan di Kabupaten Bandung* (Doctoral dissertation).
- Matheus, R., Janssen, M., & Janowski, T. (2021). Design principles for creating digital transparency in government. *Government Information Quarterly*, 38(1), 101550. <https://doi.org/10.1016/j.giq.2020.101550>
- Mesa, D. (2023). Digital divide, e-government and trust in public service: The key role of education. *Frontiers in Sociology*, 8, 1140416. <https://doi.org/10.3389/fsoc.2023.1140416>
- Nurjanah, S., & Mahendra, W. (2022). E-service quality pada pelayanan kependudukan elektronik Alpkat Betawi Pemerintah Provinsi DKI Jakarta. *Publisia: Jurnal Ilmu Administrasi Publik*, 7(2), 174-187. <https://doi.org/10.26905/pjiap.v7i2.7491>
- Nwosu, K. C., Nwokoye, I. E., Ngwube, A. C., Mbamalu, I. E., & Egbunike, C. F. (2026). Digitisation, E-Commerce and cloud computing as determinants of firm performance among FMCG firms. *Journal of Digital Business and Marketing*, 2(2), 153-171. <https://doi.org/10.35912/jdbm.v2.n2.p153-171.2026>
- Olesen, K., Wood, L. C., & Chong, J. L. L. (2021). Citizen adoption in e-government systems: A meta-analysis. *Journal of Global Information Management*, 29(6), 1-28. <https://doi.org/10.4018/JGIM.294124>
- Peeters, R., Miller, S. M., & Schuilenburg, M. (2025). Digital government inclusion: Exploring strategies for inclusive government automation. *Government Information Quarterly*, 42(2). <https://doi.org/10.1016/j.giq.2025.102028>
- Pham, L., Limbu, Y. B., Le, M. T. T., & Nguyen, N. L. (2023). E-government service quality, perceived value, satisfaction, and loyalty: Evidence from a newly emerging country. *Journal of Public Policy*, 43(4), 812-833. <https://doi.org/10.1017/S0143814X23000296>
- Ruijter, E., Porumbescu, G., Porter, R., & Piotrowski, S. (2023). Social equity in the data era: A systematic literature review of data-driven public service research. *Public Administration Review*, 83(2), 316-332. <https://doi.org/10.1111/puar.13585>
- Sabani, A., Thai, V., & Hossain, M. A. (2023). Factors affecting citizen adoption of e-government in developing countries: An exploratory case study from Indonesia. *Journal of Global Information Management*, 31(1), 1-23. <https://doi.org/10.4018/JGIM.318131>

- Scholta, H., Halsbenning, S., & Niemann, M. (2025). A coordination perspective on digital public services in federal states. *Government Information Quarterly*, 42(1), 101984. <https://doi.org/10.1016/j.giq.2024.101984>
- Scholta, H., & Lindgren, I. (2023). Proactivity in digital public services: A conceptual analysis. *Government Information Quarterly*, 40(3), 101832. <https://doi.org/10.1016/j.giq.2023.101832>
- Selan, S. T. H., Amtiran, P. Y., & Arthana, I. K. (2026). Financial behavior, income, and self-control in investment decisions: The moderating role of financial literacy. *Jurnal Relevansi: Ekonomi, Manajemen Dan Bisnis*, 10(4), 650-664. <https://doi.org/10.61401/relevansi.v10i4.437>
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333–339. <https://doi.org/10.1016/j.jbusres.2019.07.039>
- Tantinadia, M. (2025). *Inovasi pelayanan administrasi kependudukan melalui aplikasi Bedas Digital Service (BDS): Studi kasus pada Kecamatan Margahayu Kabupaten Bandung* (Doctoral dissertation).
- Wilson, C., & Mergel, I. (2022). Overcoming barriers to digital government: Mapping the strategies of digital champions. *Government Information Quarterly*, 39(2), 101681. <https://doi.org/10.1016/j.giq.2022.101681>