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Collaborative Approach on Digital Government Transformation: In-Depth Analysis from Expert Interview

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Abstract:

Digital transformation changes how private and public organisations conduct their business, stressing the importance of collaboration with various stakeholders. The public sector, especially local government, is forced by citizens' demands to change how it operates. This research examines the characteristics of existing literature on collaborative governance and digital transformation and explores the unevenness of digital transformation due to the broad autonomy granted to local governments. Qualitative methods were used, conducting in-depth interviews, advanced observations, and detailed data collection from government agencies, NGOs, and citizens of West Java, Indonesia. The enquiries reveal that governments faces silos and fragmented approaches. The results contribute to the literature, serve as a reference for improving the role of local government in collaborative digital transformation, and provide greater legitimacy in the public policy process. In the context of local government, the success of digital transformation initiatives in West Java can be attributed to effective collaboration and facilitative leadership from implementing the

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Penta-helix strategy and establishing Jabar Digital Service (JDS) as a dedicated unit for managing digital transformation.

Keywords:
collaborative digital transformation, collaborative governance, digital government transformation, local government

1. Introduction

In the digital age, governments face the challenge of meeting the public's expectations (Nemec et al., 2020), who rely heavily on digital technologies for their daily lives. This reliance necessitates modernising policies, service delivery, and public value creation. Collaboration, particularly technology-enabled, has been recognised as crucial in this context, requiring extensive coordination and information sharing (Bryson et al., 2015). Governments must adapt their policy-making and public service delivery approaches as we move into a new era of smart public governance (Gil-García et al., 2016; Scholl & Scholl, 2014; Vujković et al., 2022). Citizens no longer wish to be passive recipients; they increasingly expect to actively participate in these processes. Therefore, collaboration becomes a key factor in involving non-state stakeholders in a formal, consensus-oriented, and deliberative decision-making process to formulate and implement public policies and manage public services (Ansell & Gash, 2008). To ensure the success of collaboration, governments should embrace digital technologies and various tools as strategic elements in their efforts to modernise the public sector (Ciesielska & Janowski, 2019). This combination of digitalisation and collaboration will help governments meet the needs and expectations of the public in this rapidly evolving digital age.

The concept of digital government involves incorporating digital technologies as an integral part of governments' efforts to modernise and advance their strategies. The primary goal is to create public value through these digital initiatives. A digital government ecosystem is established, consisting of various actors, such as government entities, NGOs, businesses, citizens' associations, and individuals, is established to achieve this. This ecosystem supports the production of data, services, and content, as well as facilitates interactions with the government, enabling better accessibility for the public (OECD, 2014).

The term 'transformation' is commonly employed to signify a significant change or modernisation effort involving incorporating digital technologies into government's business processes, service delivery models, and overall culture. This restructuring aims to alter how governments carry out fundamental functions and governs (OECD, 2016). The process of transformation can also be understood as the transition from traditional government methods through initial forms of e-government to the establishment of digital government (Vlahović & Vračić, 2015). In a broader context, digital transformation can be defined in two ways: firstly, as the transformation of internal

processes within the government, and secondly, as a transformation of the relationships between the government and other social and political actors (institutional transformation). These changes are tailored to specific policy areas and requirements, encompassing interactions between the government and citizens (C2G), businesses (C2B), and other relevant stakeholders (e.g., C2G - citizen-to-government, C2B - citizen-to-business, and the like).

Digital transformation within the public sector represents a shift towards novel methods of collaborating with stakeholders, establishing fresh service delivery frameworks, and fostering innovative forms of relationships (European Commission, 2016). This collaborative approach brings forth numerous benefits. Firstly, actively involving citizens in the collaborative design and public policy implementation can enhance their legitimacy and effectiveness, instilling a sense of ownership. Secondly, the participation of citizens and stakeholders facilitates the acquisition of knowledge about needs, potential solutions, and impacts that might otherwise be overlooked. Thirdly, inclusive processes can effectively address the varied impacts of different policies on various segments of society, influencing growth and well-being. Furthermore, integrating digital technologies enables positive changes in public administrations' operations, communication, and service delivery. This transformation can lead to extensive effects, such as improving organisational structures and cultures, as well as engaging and integrating citizens and other partners in the co-design and co-delivery of public policy making (Bretschneider & Mergel, 2011; Mergel, 2019; Sivarajah et al., 2015).

The research is focused on the collaboration process between government agencies, NGOs and citizens during the digital transformation process through the aims and objectives of the central and regional policies. The research aims to present a theoretical framework of collaborative governance, emphasising issues and structural obstacles related to digital transformation. In line with the research goals, the research question is: What form of collaborative process is needed by local government to ensure the realisation of public policies in digital transformation?

To answer the research question, this article proceeds accordingly: we begin by delving into the underlying theoretical principles of collaborative governance, its interconnectedness with ICTs within the governmental framework, and its role in digital government transformation (DGT). These explorations are pivotal for contextualising the research question, mainly due to the need for even rudimentary contextual understanding. Subsequently, we detail our methodologies before presenting the actual case studies. The section dedicated to results underscores significant contributions to the existing body of scholarly work. Initially, we delve into the impact of collaborative governance on executing digital transformation within local governance and yielding outcomes that further fortify this connection. Secondly, we delve into the influence of facilitative leadership and its implications for the digital transformation in West Java. Thirdly, building upon the preceding arguments, we contend that Jabar Digital Service (JDS) operates as the central axis for collaboration,

functioning as the specialised entity for driving collaborative digital transformation. In the final sections of the article, we explore the forms of collaboration within the context of the Indonesian digital transformation landscape through the lens of theoretical analysis.

2. Theoretical background

In the realm of digital transformation within the public sector, a predominant focus lies in reinforcing collaborative efforts. This shift is emblematic of a significant departure from traditional, compartmentalised methodologies of public administration. It underscores the imperative of fostering synergy among government entities and stakeholders to fully leverage digital innovation's potential (Anderson et al., 2015; Emerson & Nabatchi, 2015; Mergel, 2017). The digital transformation agenda's dynamic and constantly evolving nature underscores the need for ongoing adaptation by government agencies and stakeholders. This adaptation encompasses staying abreast of the latest technological developments and comprehending their optimal integration into the framework of public policies. Furthermore, it accentuates the requirement for collective unity and a collaborative approach among diverse stakeholders in shaping policies that adeptly respond to the digital age's multifaceted challenges and opportunities. The application of digital technology in the public sector stands as a dynamic and transformative landscape, necessitating collaboration, adaptability, and collective action to navigate its intricate terrain effectively.

2.1. Collaborative governance and its relationship with ICT in government

Collaborative governance has emerged as a viable concept, particularly in local administration, in response to the increasing complexity of problems faced by governments (Bingham & O'Leary, 2008; O'Leary & Amsler, 2007). The key to addressing such complex issues lies in collaborating with various stakeholders, especially within local communities and environments. According to Clarke (Aijaz, 2007), local government is a part of a country's government that primarily deals with problems or issues closely related to a specific population within a particular territory. Lockard (1963) defines local government as a public organisation authorised to establish and implement public policies within a designated territory to benefit citizens in general. Therefore, the local context holds significant potential for collaborative governance. Despite this potential, many local governments do not view Information and Communications Technologies (ICTs) as collaborative tools for policy governance. Instead, the prevailing approach in numerous local governments remains 'business as usual,' which reinforces existing government processes and, consequently, failed digital transformation projects (OECD, 2014).

Prior research has identified two distinct roles that technology can assume in collaborations (Bryson et al., 2015). The first role views technology as a tool or equipment, acting as a facilitator for collaboration. This conventional perspective on technology has been extensively studied in the context of digital government (Gil-García, 2012; Gil-García et al., 2018; Luna-Reyes & Gil-García, 2014), and to some extent, explored by scholars in the field of public administration (Bryson et al., 2011). The second role perceives technology as a 'nonhuman actor' (Bryson et al., 2011; Gasco-Hernandez et al., 2022), capable of providing solutions and offering a systematic understanding of complex interactions that go beyond the perceptions of individual actors (Bryson et al., 2015). This concept of technology as an actor is elaborated in actor-network theory (Latour, 2007), which distinguishes between human and nonhuman actors, emphasising equal treatment under the principle of generalised symmetry. Despite this notion, the idea of technology as an actor has not been extensively integrated into cross-sector collaboration or collaborative governance frameworks.

However, converging collaborative governance with technological disruption is inevitable in today's context. The concept and research field of digital transformation (DT) have become well-established due to the widespread adoption of digital technologies across society, industries, and organisational management (Nadkarni & Prügl, 2021; Verhoef et al., 2021; Vial, 2019). DT represents a process at the intersection of products, services, and media, focusing on using digital technologies to transform and create value. As a research area, DT is continually evolving and adapting to changes in its relevant domain (Roth, 2019). In reviewing the existing literature, Vial (2019) discovered significant inconsistencies in research on digital transformation, leading to an attempt to define it as a process that aims to enhance an entity by introducing substantial changes in its characteristics through the integration of information, computing, communication, and connectivity technologies. Concerning digital transformation in the public sector, recent works have delved into the digital era governance, encompassing e-government and digital government (Ravšelj et al., 2022).

2.2 Digital government transformation (DGT)

The existing literature on digital transformation primarily focuses on concepts like e-government, digital government, and transformational government, which can cause ambiguity and redundant interpretations. Understanding and predicting the progress of DT is crucial for government officials, policymakers, researchers, and anyone involved in making, implementing, or assessing decisions related to digital government (Janowski, 2015). So far, there is limited empirical evidence about how governments approach DT (Mergel et al., 2019). Previous empirical studies have mainly focused on a single organisation at the national level (Ma & Zheng, 2017; Tassabehji et al., 2016; Weerakkody et al., 2011) and have yet to consider policy implementation at different levels in hierarchical bureaucracies. However, government DT frequently involves changes that affect various organisational components at different levels. Using digital technologies can significantly alter an organisation's infrastructure, products, services,

business processes, business models, and strategies, as well as its relationships with other organisations in extended business networks (Berman, 2012; Bharadwaj et al., 2013; Sebastian et al., 2017). Despite the high expectations for DT, recent failures in transforming public sector organisations have shown a lack of comprehension of the complexity of DT and the relationships among technologies, information use, organisational contexts, and institutional arrangements (Dobrolyubova, 2021; Luna-Reyes & Gil-García, 2014; Tassabehji et al., 2016).

Digital transformation in government has been driven by several factors, including technological advances, changing citizen expectations, and the need for governments to operate more efficiently and effectively. In the early days of digital transformation in government, e-government focused primarily on digitising paper-based processes and providing basic online services to citizens, involving the development of e-government portals, online forms, and simple information websites (Andersen et al., 2011).

With the demand for government innovation, the concept of e-government continues to transform into a more inclusive design, and, from time to time, considering the acceptance of current technology becomes a necessity. However, little research has been done about the concept of digital transformation of government, and on the influence of ICTs and other factors (Mahmood, 2016; Mahmood et al., 2019). Therefore, it is important to address the digital government approach that potentially transforms citizen-to-government interactions in two ways: by improving public policy and service delivery and by improving relations between citizens and government (Fountain, 2001; Seifert & Petersen, 2002)

In the public sector literature, the need for such a transformation has often been referred to as t-gov. T-gov refers to "the ICTs-enabled and organisation-led transformation of government operations, internal and external processes and structures to enable the realisation of services that meet public-sector objectives such as efficiency, transparency, accountability, and citizen centricity" (Weerakkody et al., 2011, p. 321). T-gov scholars argue that public organisations must undergo a transformation process to fully benefit from digital technologies and reach full digital maturity (Al-Shafi & Weerakkody, 2010; Cordella & Bonina, 2012; Weerakkody et al., 2011), and to avoid failure of digital technology implementation projects (Weerakkody et al., 2011). Therefore, when adopting and implementing new digital applications, new organisational structures, processes, and resource allocations should be considered (Omar et al., 2017).

In the context of digital government transformation (DGT), the concept of collaborative governance emerges as a pivotal element shaping the trajectory of public organisations in response to the extensive and radical changes driven by digital technologies. Recent research, as highlighted by (Gong et al., 2020), underscores the transformative nature of these technological advancements, leading to second-order changes that significantly reshape the landscape of public sector operations. Within the framework of DGT, collaborative governance introduces a dynamic and participatory

approach to managing the complexities associated with digital transformations. Unlike traditional hierarchical models, collaborative governance emphasises the involvement of diverse stakeholders, including government agencies, private sector entities, and the public, in decision-making processes. This approach acknowledges that the multifaceted challenges and opportunities presented by DGT demand a collective effort for effective implementation, where the scope and impact of digital transformations often transcend organisational boundaries (Luna-Reyes & Gil-García, 2014).

As proposed by (Barcevičius et al., 2019), the term Digital Government Transformation encompasses not just the adoption of digital technologies but a broader and more holistic reimagining of public sector operations. Collaborative governance complements this broader perspective by fostering a collaborative culture that transcends organisational silos. It promotes breaking down barriers between government agencies, private sector partners, and the public, creating a shared vision and understanding of the transformative possibilities offered by DGT. Collaborative governance is a strategic enabler for navigating the complexities and uncertainties associated with digital technologies, ensuring the transformative potential of DGT is realised through inclusive decision-making, adaptability, and fostering a culture of collaboration across diverse stakeholders.

3. Methodology

In the Indonesian context, the digital transformation strategy known as the Electronic-Based Government System (SPBE), is governed by Presidential Regulation Number 95 of 2018 (Wisnubroto, 2022). SPBE's vision is to establish an integrated electronic government system to enhance bureaucratic efficiency and public services, serving as a reference for e-government implementation at various government levels. While subordinate to the central government in the unitary state, local governments have been granted autonomous authority. However, the uneven distribution of digital transformation resources is challenging, with major cities better positioned than other regions. Accelerating SPBE's digital transformation requires central government support, adequate infrastructure, and human resources.

The empirical research used qualitative methods. An in-depth interview, advanced observations, and detailed data collection were used from government agencies at the central level and West Java Provincial Government, NGOs, and citizens. The research was conducted between December 2021 and April 2022 in Jakarta and Bandung (West Java Province), Indonesia (Table 1). We used a combination of purposeful and snowball sampling to identify the main informants in each case (Creswell & Creswell, 2018). Snowball sampling involves identifying other relevant informants by requesting referrals from every interviewee (Brayda & Boyce, 2014). Thus, we started sending official letters and contacting individuals who had the role of public manager dealing

with digital transformation at either the central or local level and asked them to identify additional informants who played a role in the digital transformation agenda. All interviews were conducted by one of the researchers, digitally recorded, transcribed, and coded to ensure consistency (Saldana, 2015; Saldaña & Omasta, 2017).

Table 1:

Overview of the collected data

Data Sources	Number/ times used	Methods	When	Type
		Primary Data		
Interviews	18	Semi-structured, in-depth interviews with public officials in state and local government, and NGOs.	December 2021 to April 2022	Face-to-face interviews (direct and online)
Observations	10	Observing the Jabar Digital Service work environment, attending coordination and evaluation meetings, observing ongoing projects related to digital transformation.	January to March 2022	Observing the meetings
		Secondary Data		
Government reports	5	Government agency reports	January to March 2022	Written documents
Presentations, social media, websites, online meetings, and the like.	10	Regulatory framework, open access information, meeting agendas and government online forums, social media posts, and webinars.	January to July 2022	Online and written documents

Source: Author's own, 2023.

4. Results

The research findings reveal that while the SPBE promotes collaboration, there are challenges related to integration within the framework. Although there is significant collaboration between government agencies (G2G), the development of a digital government system still faces issues of silos and fragmented efforts[4]. This lack of coordination among the institutions involved in SPBE creates barriers and hinders the realisation of a truly integrated and seamless digital governance approach.

4 Interview results with Ministry of Administrative and Bureaucratic Reform of the Republic of Indonesia. Cahyono Tri Birowo.

4.1. Silos and fragmented digital government landscape as main challenge for collaboration

One of the main obstacles identified is the presence of sectoral ego within both central and local government. Each agency or department may prioritise its own objectives and interests, resulting in a fragmented digital government landscape. This fragmented approach can lead to duplication of efforts, inefficiencies, and limited interoperability between systems[5]. Fostering a shared understanding of common strategies and goals among different institutions involved in SPBE is crucial to addressing this challenge, which can help break down silos and encourage collaboration that spans sectors, enabling a more holistic and integrated digital governance ecosystem.

Furthermore, the absence of a chief of digital transformation at the central government level is identified as a hindrance to collaborative efforts. The National SPBE Coordinating Team, led by the Minister of State Apparatus Utilization and Bureaucratic Reform (PANRB), plays a crucial role in guiding and coordinating the implementation of the SPBE in Indonesia.

The complex and rigid regulations associated with the SPBE in Indonesia present challenges to digital transformation. The emphasis on a regulation-heavy approach within SPBE has led to many intricate and inflexible regulations. This regulatory complexity creates barriers to innovation[6], as it hampers the ability to adopt and adapt to temporary innovations and emerging technologies. Innovation thrives on flexibility and creativity, but the current regulatory framework lacks the necessary adaptability to foster a culture of innovation within the government.

The existence of numerous arrangements and strategies at both the national and local levels further complicates the digital transformation process. The plethora of overlapping frameworks can lead to confusion and redundancy, making it difficult to streamline efforts and achieve meaningful progress[7]. This fragmentation within the regulatory landscape hinders effective coordination and collaboration between government agencies, resulting in inefficiencies and missed opportunities for impactful digital transformation.

Additionally, the absence of a focus on measuring impact compounds the challenges of the regulation-heavy approach. Government agencies tend to prioritise completing indicators and achieving predetermined standards without adequately assessing the actual impact of their digital transformation efforts. This narrow focus on compliance rather than outcome evaluation inhibits the ability to identify and address shortcomings, adjust strategies, and drive meaningful improvements in public service delivery. Streamlining regulations, simplifying processes, and creating an environment encouraging experimentation and innovation to facilitate effective digital

5 ibid

6 Interview results with National Information and Communication Technology Council (Wantiknas). Gerry Firmansyah.

7 Interview results with Regional Secretary of West Java Province. Setiawan Wangsaatmaja.

transformation are imperative. The above involves a shift towards a more flexible regulatory framework that allows for the adoption and adaptation of temporary innovations and emerging technologies.

4.2 Facilitative Leadership and its impact on digital transformation in West Java

Collaborative governance involves multiple stakeholders working together to address complex problems, and facilitative leadership involves creating a positive environment where all stakeholders can contribute their ideas and perspectives. Facilitative leadership is critical to the success of collaborative governance because it can help build trust, manage conflict, and ensure that all stakeholders have a voice in the decision-making process. Facilitative leaders can help stakeholders work towards a shared goal and achieve successful outcomes by emphasising collaboration and problem-solving. The influence of leadership on multi-sector collaboration can be seen in the activities of the Government of West Java digital transformation unit known as the Jabar Digital Service (JDS).

> *"The concept for digital development by the current governor approach is very collaborative through the spirit of Penta-helix or ABCGM (Academics, Business, Community, Government, Media)"*[8], JDS.

The Penta-helix approach is a collaborative governance model bringing together five key sectors of society to work together towards a common goal. These five sectors are: government, academia, industry, community, and media. Under the leadership of West Java Govenor, the Penta-helix approach has been a key element of West Java's digital transformation strategy.

> *"Ideally, we should look for leadership figures that are relevant to the digitalisation era and open-minded. When you have an open mind, you are automatically more open to change. In West Java, we are lucky to have a leader who is very supportive, all policies and strategies at the highest level depend on the leadership and personality. I see the good will of this leadership as the most crucial"*. - Interviewee 14, JDS.

The approach has enabled a more coordinated and holistic approach to digital transformation, which has allowed West Java to leverage each sector's strengths and expertise and develop solutions tailored to the needs of its citizens. For example, under the Penta-helix approach, JDS has partnered with universities and research institutions to develop new technologies and digital applications. It has also worked closely with the private sector to create new opportunities for digital entrepreneurship and innovation. The Penta-helix approach has also enabled JDS to engage with communities and media outlets to ensure that citizens are informed and engaged in the digital transformation process.

8 Interview results with Head of Jabar Digital Service (JDS), West Java Province. Agi Agung Galuh Purwa.

> *"Of the most importance is the good will of leadership who decides whether regulations in DT should be made by the top management and aligned with the relevant standards".* - Interviewee 14, JDS.

Overall, the Penta-helix approach has been a key element of West Java's digital transformation strategy under the Governor. Promoting collaboration and engagement across sectors has enabled West Java to create a more innovative, inclusive, and sustainable digital future for its citizens. Digital transformation involves a comprehensive approach encompassing not just technology but requires organisational structures, processes, and culture changes. It should involve adopting new regulations, business models, developing new products and services, and enhancing customer experiences.

> *"This collaboration is very important not only to strengthen digital transformation but also to accelerate it; the government has limitations, regarding the budget, human resources, and other things. Therefore, it would be very good if we collaborated with various sectors".* – Interviewee 3[9], Digital Transformation Office, Ministry of Health Republic of Indonesia.

Collaboration efforts within the internal government environment are realised through the establishment of the West Java Provincial SPBE Coordination Team (Table 2). SPBE is one of the priority programmes of the West Java Provincial Government for 2018-2023. The implementation of SPBE in West Java Province is a realisation of the 5th Mission: "to achieve Innovative Governance and Facilitative Leadership between the Central Government, Provincial Government, and Districts/Cities". This Mission aims to achieve Good Governance and Whole of Government to realise innovative, clean, and accountable governance.

Similarly to the e-Government Development Index (EGDI), which is UN indicator measuring the e-government level of countries worldwide, Indonesia adopted a national level index, a ranking system called the SPBE Index, which represents the level of maturity in implementing SPBE in central and local government agencies, which includes the maturity level of process capability and service capability.

9 Interview results with Digital Transformation Office (DTO) of the Indonesian Ministry of Health. Setiaji.

Table 2:

Comparative qualitative analysis of the Governance Domain within West Java Province and the Collaborative Governance Dimensions.

Collaborative Governance variables (Ansell & Gash, 2018; Emerson & Nabatchi, 2015)	Domains	Existing / DT agenda	Maturity level (1-5)[10]
The Collaborative Process	Coordinating Team for Local Government	The formation of the Local Government SPBE Coordination Team has been completed through extensive leadership influences. The work programmes have been effectively executed and communicated to all pertinent local entities. Moreover, the Coordination Team's programme has undergone scrutiny and assessment, leading to subsequent enhancements.	5
Collaborative Dynamics	Collaboratve actions	The cooperation among local entities in executing SPBE has been per the established plan, with full integration among all government units overseen by the local leader. Furthermore, the collaborative effort in SPBE implementation has undergone a review and fair assessment, although no subsequent actions have been taken.	4

Source: Authors' own elaboration drawn from a review of existing literature and the assessment of the SPBE Policy Optimization in West Java Province (2022).

The profound impact of strong leadership on the SPBE coordinating team's activities is evident in Table 3. The provided support and guidance create a conducive environment for fostering effective collaboration and facilitating the implementation of digital transformation projects. Furthermore, West Java Governor's influential leadership plays a pivotal role in surmounting potential challenges and obstacles that may arise on the digital transformation journey. His dedication to digital innovation and talent for inspiring and motivating others contribute to consensus-building, dismantling barriers, and cultivating a shared sense of purpose among stakeholders, which, in turn, empowers the coordination team and various government agencies to collaborate effectively, surmount obstacles, and propel progress in digital transformation initiatives.

4.3 Jabar Digital Service (JDS) is the collaborator axis, the specialised unit for COLLABORATIVE digital transformation

Digital transformation in government collaboration refers to using digital technologies to enhance communication and collaboration between government agencies, departments, and other stakeholders. This process involves using various digital tools

10 West Java Province SPBE Service Domain Achievements in 2021, maturity level 1 (lowest) to 5 (highest).

and platforms, such as cloud computing, social media, mobile applications, and other emerging technologies to facilitate information exchange, streamline processes, and improve service delivery.

> *Digital transformation relates to a digital society, so the government must be digital and transformed. Because of that, we help regional offices to speed up the digitisation process, making it easier for the bureaucracy to provide good service to the community at the provincial level.* - Interviewee 14, JDS.

Establishing Jabar Digital Service (JDS) as a dedicated, special unit to manage digital transformation in West Java is a significant step towards driving effective and efficient digital initiatives. JDS is the leading institution responsible for overseeing and implementing digital initiatives, focusing on enhancing digital services and promoting data-based decision-making. Furthermore, JDS is the driving force behind the most fundamental aspects of digital governance: data, infrastructure, and applications. Its primary responsibility is ensuring these foundational elements are in place to support the digital transformation efforts.

JDS, initiated by the Provincial Government of West Java, is a tangible representation of how e-government or digital government, specifically the SPBE, is put into action. The unit catalyses realising the key pillars of digital transformation. By prioritising government digitalisation, JDS aims to build trust among citizens, optimise public services, and facilitate seamless coordination between different government units. Furthermore, JDS seeks to foster collaboration between state and non-state actors, recognising the importance of engaging various stakeholders in the digitalisation process.

Table 3:

West Java Digital Transformation Achievements in 2022

No.	Activities	Volume
1	Collaborative partners actively involved.	169
2	The Command Centre in West Java is replicated, providing a quick response to important events.	19
3	West Java Open Data datasets simplify public access to a wide range of information.	13.985
4	Hamlet leaders (RW heads) engage proactively through the Sapawarga app in the policymaking process.	10.792
5	Data management training involved the participation of 40 government agencies in West Java through the Statistical Data Champions programme.	208
6	Stakeholder forums, known as TechUpdate sessions, have been conducted to expand knowledge in the technology domain	44

Source: Jabar Digital Service, 2022.

Participation in programmes and social networks has witnessed a rise in stakeholders' engagement by including the ABCGM dimension concerning the digital

transformation initiative following the introduction of Jabar Digital Service, as evidenced by the data presented in Table 3. The involvement of institutions, individuals, and the community has become notably substantial in the local government's one-year plan initiatives.

A significant aspect of JDS's role is promoting integration among the different agencies within the West Java Provincial Government. By aligning their business processes and systems, JDS can streamline operations, improve efficiency, and enhance the overall effectiveness of the government. This integration benefits internal coordination and enables more effective collaboration with external partners. Given the current situation, it is evident that the leadership of Governor of West Java is poised to become a frontrunner in the government's digital transformation efforts. This leadership is not solely based on the sophistication of the technology being implemented but rather on the increasing trust that the public has in the government.

One noteworthy aspect of JDS is its distinct structure, work culture, and resource access. JDS operates with more flexibility, agility, and innovation, unlike the general bureaucracy. The unit is specifically designed to prioritise and accelerate digital transformation efforts, allowing for quicker decision-making processes and more efficient implementation of digital projects. The structure of JDS ensures that the necessary expertise and specialised skills are available to tackle the unique challenges associated with digital initiatives. JDS operates with a structure distinct from the general bureaucracy, allowing the unit to have more agility, flexibility, and specialised focus on digital transformation. It can streamline decision-making processes and overcome bureaucratic obstacles that often hinder implementing digital initiatives in traditional government structures. JDS fosters a work culture embracing innovation, collaboration, and adaptability. The unit can attract and retain talented personnel with expertise in digital technologies, data analytics, and project management. The work culture at JDS encourages experimentation, learning from failures, and continuous improvement, which are crucial for successful digital transformation.

As a dedicated unit, JDS has access to dedicated resources, including human resources, infrastructure, and technology, enabling the unit to plan, implement, and manage digital initiatives effectively. Having dedicated resources ensures the unit can carry out its functions efficiently and effectively, without being constrained by limited resources often allocated to general government departments. The availability of a significant budget allocated explicitly for accelerating digital transformation is a critical enabler for successful implementation. This budget provides the necessary financial resources to invest in infrastructure, technology, capacity building, and strategic partnerships. The allocation of funds specifically for digital services and data-based decision-making reflects the commitment of West Java to prioritise and invest in digital transformation.

5. Discussion

This case study is a timely extension of the limited literature on collaborative governance, particularly its interplay with Information and Communication Technologies (ICTs) within the governmental framework. Our on-the-ground research sheds light on how Indonesian local governments are actively shaping and implementing digital transformation initiatives. These empirical findings offer crucial insights into the dynamics of collaboration within the Indonesian digital transformation landscape, as viewed through the lens of theoretical analysis.

In delving into the collaborative processes and digital transformation strategies within the context of a developing country, this case study contributes depth to the existing analysis on this expanding topic; notably, despite the presence of silos and fragmented regulatory structures in Indonesian, a national strategy on digital transformation. In the context of our study, the digital transformation process within local government remains unhindered. The strong influence of local leaders emerges as a driving force, allowing the digital transformation agenda to progress seamlessly alongside effective collaboration, demonstrating that intricate regulations are not always a prerequisite.

The results of this study not only shed light on the success of local leadership and collaboration in digital transformation but also prompt a broader reflection on the centralised nature of national-level policies. While the robust influence of local leaders has proven instrumental in facilitating progress, it simultaneously raises questions about potential criticisms directed at centralised policies.

In public governance, collaboration emerges as a crucial collective endeavour to realise public values by establishing a shared consensus on policy. The success of digital transformation initiatives at the local level underscores the importance of collaborative efforts in achieving public objectives. This juxtaposition invites a nuanced examination of the interplay between local and national governance in the broader context of fostering effective digital transformation. It prompts considerations about how centralised policies can be complemented by, or potentially benefit from, the collaborative and locally-driven approaches observed in the study. Such reflections contribute to a more comprehensive understanding of the dynamics between local and national levels in shaping successful digital transformation strategies. This process underscores the importance of cooperation and collective decision-making among diverse stakeholders to effectively achieve public objectives (Ansell & Gash, 2008; Emerson & Nabatchi, 2015; Van Maasakkers et al., 2014).

The success of the digital transformation agenda at the local level, as demonstrated in the case study, is directly attributed to the local government leader's effective collaboration and influential leadership. Collaboration holds emphasis and is also ingrained as a central goal in the local government's vision, reflecting a dedicated commitment to fostering cooperation and collective efforts in attaining digital

transformation objectives.

The research results also affirm the key concept of collaborative governance, mainly through designs incorporating Facilitative Leadership. This leadership style proves essential in establishing and upholding well-defined rules, nurturing trust, enabling meaningful conversations, and seeking mutual benefits (Ansell & Gash, 2018). Building on this, Lasker et al. (2001) highlight the crucial abilities of effective collaborative leaders, including encouraging extensive and engaged participation, ensuring widespread impact and authority, guiding constructive group interactions, and broadening the reach of the collaborative process.

A pivotal element in the achievement of successful collaboration is the operation of the digitalisation unit at the local level, which plays a vital role in facilitating coordination, communication, and synergy among various government agencies and stakeholders involved in digital transformation initiatives. The team ensures alignment of efforts, optimal resource utilisation, and sharing knowledge and best practices across different departments and agencies.

The West Java Governor plays a pivotal role in successful collaboration and coordination for digital transformation. His leadership is instrumental in shaping the vision and strategy, which is evident through hands-on participation and direct project contribution. The Governor actively fosters teamwork among governmental entities, promotes public-private partnerships, and cultivates an environment of innovation, which aligns with collaborative governance and Facilitative Leadership, as he exhibits qualities like encouraging participation, broad-based influence, and fostering productive group dynamics. In facilitative leadership, the Governor catalyses open communication, cooperation, and problem-solving, fostering a sense of ownership among team members (Ansell & Gash, 2018; Van Maasakkers et al., 2014).

By aligning with the proactive strategies advocated by local leadership, the institutional design (Ansell & Gash, 2008) employed in a collaborative framework (Ansell & Gash, 2008) seamlessly converges with implementing the Penta-helix strategy. Notably, this alignment is prominently reflected in the incorporation of the ABCGM dimensions (Academia, Business, Community, Government, and Media). This strategic fusion marks a substantial progression in fostering collaboration to influence public policies and enhance digital services in the context of West Java. The adopted approach underscores the significance of involving diverse stakeholders from various sectors in the decision-making process, thereby contributing to a more inclusive and effective governance model.

In this context, institutional design pertains to the fundamental guidelines and foundational principles guiding collaboration (Ansell & Gash, 2018). These guidelines are pivotal for ensuring the procedural credibility of the collaborative endeavour. Incorporating a diverse range of participants is not merely an expression of collaborative governance's welcoming and cooperative nature (Ansell & Gash, 2008; Breaugh et al., 2023). Instead, it forms the core of a process of validation built upon two

aspects:

- The chance for stakeholders to engage in thoughtful discussions alongside others regarding policy results.
- The assertion that the policy outcomes reflect a consensus encompassing a wide spectrum of participants.

The collaborative strategy in West Java strives to leverage each stakeholder category's collective knowledge, resources, and viewpoints. Academia contributes research expertise, inventive concepts, and technological proficiency. Businesses bring in industry insights, investment possibilities, and an entrepreneurial mindset. Community organisations offer localised understanding, grassroots involvement, and advocacy for community voices. Government agencies take on a pivotal role in crafting, implementing, and overseeing policies. Media is a critical communication channel, promoting awareness and facilitating public discussions.

This collaborative approach ensures the evolution of digital services and policies in West Java is all-encompassing and thorough and reflects the requirements and ambitions of all stakeholders. By amalgamating diverse outlooks and proficiencies, the collaborative strategy fosters a more comprehensive comprehension of the challenges and prospects inherent in digital transformation. The above correlates with the concept of institutional design mentioned earlier, emphasising the significance of involving multiple stakeholders and establishing ground rules for effective collaboration (Gasco-Hernandez et al., 2022).

Based on the preceding discussion, the researchers conducted an in-depth comparative analysis linking the collaborative process (Ansell & Gash, 2008, 2018), and the dimensions of digital transformation (Mergel et al., 2019; Vial, 2019). This endeavour aimed to elucidate the interplay between these two aspects and how they correlate within the context of the research findings. The purpose of this analytical connection was to lay the groundwork for informing and shaping forthcoming research endeavours.

In other words, the authors affirmed the similarities and intersections between the methodologies of collaborative processes and the multi-faceted aspects of digital transformation. By juxtaposing these frameworks, the researchers sought to unravel how they align and influence one another, drawing insights from the outcomes of their investigation. This examination ultimately serves as a blueprint for guiding the direction of future research initiatives in Table 4.

Table 4:

Cross analysis between the collaboration process and the digital transformation dimensions[11]

DT Dimension (Mergel et al., 2019; Vial, 2019)	**The Collaborative Process** (Ansell & Gash, 2008, 2018)				
	Face-to-Face Dialogue	***Trust Building***	***Commitment to the Process***	***Shared Understanding***	***Intermediate Outcomes***
Use of digital technologies	The use of technology has expanded communication possibilities, but face-to-face dialogue remains vital.	Providing secure and transparent platforms for communication.	Providing efficient tools for coordination, real-time data sharing, and tracking progress.	Enabling information sharing, data analysis, and collaborative platforms.	Providing digital tools for data analysis that enhance coordination, alignment, and monitoring of progress towards strategic objectives.
Disruptions	Essential in navigating technology disruption as it enables open communication.	Enabling transparency, access to information, and data-driven decision-making.	Impact to the commitment to the process by requiring adaptation to new technology.	Necessitating the exploration and adoption of new technologies, fostering a shared awareness of emerging trends, and encouraging collaborative efforts.	Requiring agile adaptation, leveraging innovative solutions, and aligning technology strategies with the evolving needs and goals of the collaboration.
Strategic responses	Valuable component of a digital transformation strategy as it facilitates effective communication and stakeholder engagement.	Play a crucial role in building trust by leveraging technology to enhance stakeholder engagement.	Strengthen stakeholders' commitment to the process by demonstrating a proactive approach.	Facilitating information sharing, providing insights that enable a common understanding of goals, processes, and outcomes.	Providing a proactive and adaptive approach, aligning resources towards strategic objectives.
Change in value creation paths	Pivotal role in driving change on value creation by fostering meaningful interactions.	Crucial as it requires open and active engagement to navigating and adapting to the evolving landscape, ensuring that the changes are embraced.	Ensures a collective effort to embrace and adapt to new approaches, enabling stakeholders to navigate and overcome challenges.	Facilitates a common comprehension of the reasons, implications, and potential outcomes of the change.	Guiding the iterative process of aligning strategies with changing and desired value creation outcomes.

11 Processed through qualitative inquiries from 18 interviewees.

Structural changes	Enables direct engagement, effective communication, and the building of consensus among stakeholders.	Ensures stakeholders feel valued, engaged, and confident in the organisational structure.	Providing a sense of stability, direction, and accountability, fostering stakeholders' commitment to actively participate and contribute to the collaborative process.	Defining clear channels for communication, facilitating information sharing, and aligning stakeholders' perspectives and goals to the shared vision.	Providing a clear strategic plan that supports efficient and effective decision-making, and clear accountability, and enabling stakeholders to collaborate towards tangible results.
Organizational barriers	Valuable tool in overcoming barriers in builds trust, and facilitates the identification and resolution.	Enabling stakeholders to navigate challenges, break down silos, and collaborate effectively towards common goals.	Fostering a shared dedication to open dialogue, cooperation enabling stakeholders to transcend bureaucratic hurdles.	Promoting clarity, mutual comprehension, and alignment of goals.	Overcome resistance, adapt workflows, and navigate obstacles towards the goals.
Negative impacts	Providing an avenue for addressing concerns, understanding user needs, and ensuring the human element is not overlooked.	Mitigates the uncertainty, resistance to change, and concerns about data security or privacy.	Fostering resilience, adaptability, and a shared determination to address challenges, driving the proactive identification of solutions.	Knowledge exchange, and collaborative problem-solving.	Providing tangible markers on strategic plan, measures of progress, fostering a sense of achievement.
Positive impacts	Complements the positive impacts on by fostering citizen engagement, leading to enhanced government performance.	Empowering stakeholders to embrace technological advancements	Fostering a collective perseverance, and active participation.	Fostering collaboration, and informed decision-making, enabling stakeholders to leverage technology effectively.	Providing measurable on strategic plan, driving momentum

Source: Authors' own, 2023.

6. Conclusion

Indonesia's national digital transformation initiative, termed the Electronic-Based Government System (SPBE), aims to establish a comprehensive framework for collaborative digital governance. Its primary objective is to facilitate the realisation of outlined goals by creating the necessary structures, policies, and frameworks to ensure effective digital governance at various government levels. However, research findings

reveal challenges within SPBE. Although it encourages collaboration, issues related to integration persist, impeding the development of a unified digital government system. These challenges manifest as fragmented approaches among stakeholders, exacerbated by sectoral interests in both central and local government bodies, leading to inefficiencies and limited interoperability between systems.

In contrast, the success of digital transformation endeavours at the local level, particularly in West Java Province, is attributed to the local government's robust collaboration and influential digital leadership. Effective leadership and coordination at the local level play a pivotal role in the triumph of SPBE. Notably, the significant influence of the West Java leadership is crucial in shaping the vision, collaborative direction, and priorities for digital transformation in the region.

In the realm of contemporary research and future inquiries within the wider academic community on collaborative governance and digital government transformation, the case study substantiates the juxtaposed concept implied by the Penta-helix strategy and the ABCGM approach. This dual framework plays a crucial role in shaping digital initiatives for Indonesian local government. The holistic approach emphasises the significance of involving diverse stakeholders and is further fortified by the establishment of Jabar Digital Service (JDS), a specialised unit dedicated to digital transformation. JDS takes a leadership role in implementing digital initiatives, with a pronounced emphasis on improving digital services and advocating for data-driven decision-making.

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