NeoRespublica : Jurnal Ilmu Pemerintahan
Volume 7. No. 1. (2025), hlm 55-74
ISSN Online : 2716-0777
Journal Homepage : https://neorespublica.uho.ac.id/index.php/journal

Overcoming Silo Challenges in Technology-Based Budget Integration Through Relational Crafting: Comparative Evidence from Southeast Sulawesi

Syamsul Alam [1*]; Faturachman Alputra Sudirman [2]; Saidin [3]
[1] Department of Public Administration, Halu Oleo University, Kendari, Indonesia
[2,3] Department of Government Science, Halu Oleo University, Kendari, Indonesia
*Correspondence : syamsulalam330@gmail.com
Date of submission: 4 November 2025 | Date of acceptance: 7 December 2025

ABSTRACT
This study explores the role of relational crafting in overcoming siloed behaviors and enhancing the integration of e-budgeting systems in Southeast Sulawesi, Indonesia. Using a qualitative approach, the research employs in-depth interviews and thematic analysis to examine how relational crafting behaviors—such as trust-building, communication, and collaboration—can address barriers in technology adoption and budget management. Focusing on Muna, Kolaka, and Kendari regions, findings reveal that regions with weak relational networks, such as Muna, face challenges like poor inter-departmental coordination and resistance to change, hindering e-budgeting implementation. In contrast, Kendari shows successful adoption due to stronger relational networks fostering collaboration. This study highlights the importance of relational crafting in reducing siloed practices and facilitating technology integration. It offers practical insights for policymakers, particularly in developing regions, on improving e-budgeting efficiency through relational networks.

Keywords
e-budgeting systems; local government; relational crafting; siloed behaviors; technology adoption.

Introduction

Local governments, including those in Southeast Sulawesi, Indonesia, increasingly adopt digital tools such as e-budgeting to enhance accountability and transparency in public finance (Sudirman et al., 2022; Pulkkinen et al., 2024; Valle-Cruz et al., 2022). E-budgeting digitalizes budgeting procedures and enables open-data practices, yet implementation frequently encounters structural barriers. A key challenge is organizational silos between budget management units, which impede coordination, delay decisions, create inefficiencies, and weaken technology integration (de Waal et al., 2019; Henttu-Aho, 2018; Leiren & Jacobsen, 2018; Orton & Weick, 1990). Separation between planning, financial control, and expenditure functions often results in fragmented information flows, overlapping allocation, and reduced responsiveness in budgeting (Scott & Gong, 2021).

Technological constraints further intensify these issues. Differences in digital infrastructure, human resource skills, and data-management capacity create uneven readiness across regions (Criado & Zarate-Alcarazo, 2022; Shou et al., 2025). Without integrated systems, information cannot be exchanged effectively, undermining transparency and limiting efficiency gains. Technology integration is therefore essential to streamline planning, allocation, and reporting processes, and to ensure budgets align with community needs (Alam, Larisu, et al., 2025; Krah & Mertens, 2023; Valle-Cruz et al., 2022). However, technology alone is insufficient without mechanisms that strengthen collaboration between units.

One promising behavioral approach is relational crafting—employees' proactive efforts to build communication and cooperative interactions across organizational boundaries (Lazazzara et al., 2020; Tims et al., 2022). While e-budgeting platforms provide technical infrastructure, successful adoption requires interpersonal coordination, trust, and shared understanding (Frid et al., 2024). Relational crafting enables employees to reduce silo effects, foster teamwork, and support smoother technology integration, making it particularly relevant in public budgeting environments.

The adoption of e-budgeting can also be understood through technology and innovation theories. The Technology Acceptance Model (TAM) highlights the importance of perceived usefulness and ease of use in driving adoption (Davis, 1989; Yan & Lyu, 2023). The Diffusion of Innovation theory explains variations in adoption rates and identifies social structures that influence technology diffusion (Li et al., 2024; Rogers, 2003; Sucupira et al., 2019). These frameworks suggest that successful e-budgeting adoption relies not only on system design but also on organizational readiness and capacity for innovation.

Participatory Budgeting (PB) theory reinforces this perspective by emphasizing collaboration between citizens and government agencies to strengthen transparency and accountability (Bartocci et al., 2023; Schugurensky & Mook, 2024). In e-budgeting contexts, PB can facilitate broader stakeholder involvement, reduce

resistance, and improve alignment with local needs (Johnson et al., 2021; Musadat, 2023). Thus, PB supports cross-functional collaboration needed to overcome silo-driven fragmentation in public budgeting.

Relational crafting is rooted in job crafting theory (Junça-Silva et al., 2022; Moreira et al., 2022), which posits that employees proactively shape work relationships to adapt to change. Relational crafting strengthens cooperation, enhances communication, and reduces resistance to technology adoption (Adade & de Vries, 2024; Boehnlein & Baum, 2022). It also fosters employee readiness for change, adaptability, and well-being—critical factors in technology-driven environments (Rufini et al., 2025: Alam, Kadir, et al., 2025; Ali et al., 2021; Szőts-Kováts & Kiss, 2023). In budgeting, relational crafting can create synergy between units and accelerate digital transformation.

Despite its relevance, research on relational crafting in public budgeting, particularly in developing countries, remains limited. Existing studies predominantly examine private-sector or developed-country contexts (Luu, 2021). However, emerging evidence suggests relational crafting improves performance and adaptation in financially oriented roles, including accounting (Horton & Wanderley, 2024). Psychological safety also encourages proactive use of budgeting systems, suggesting that trust-driven environments support technological enablement (Johansson-Berg & Wennblom, 2023). This indicates relational crafting may reduce barriers to technology integration and improve inter-unit collaboration in government budgeting.

Indonesia's e-budgeting initiative seeks to improve efficiency and transparency, particularly in regions with fiscal constraints such as Southeast Sulawesi. Yet siloed arrangements between institutions—including the Regional Development Planning Agency, the Regional Finance and Asset Management Agency, sectoral offices, regional hospitals, investment services, and human-resource development bodies—often impede system integration and coordination. Fragmented systems complicate data sharing, budget preparation, and monitoring, while limited technical expertise and change resistance delay system optimization.

Administrative data demonstrate these challenges. Kolaka Regency, Kendari City, and Muna Regency finalized their 2018 budget regulations only days before the fiscal year began, missing the mandated 30-day deadline, and subsequently revised budgets months into implementation. These delays reflect fragmented information flows and weak inter-agency integration. Moreover, budget growth in Kendari City and Muna Regency was not accompanied by system advancements, while Kolaka Regency faced persistent coordination constraints despite smaller budget fluctuations. These disparities indicate uneven readiness to integrate technology and highlight silo-driven inefficiencies.

Thus, addressing organizational silos and strengthening relational mechanisms is critical to realizing e-budgeting benefits. Without adequate technology and inter-

unit collaboration, local budgeting remains vulnerable to delays, inefficiencies, and limited transparency. This study examines three regions in Southeast Sulawesi—Muna Regency, Kolaka Regency, and Kendari City—to analyze how relational crafting shapes e-budgeting adoption and reduces silo barriers. It explores employee behaviors in digital budgeting environments, identifies institutional constraints, and explains how relational crafting fosters integration and system readiness.

This research contributes to public administration literature by introducing relational crafting as a behavioral dimension in technology-based budget reform. It provides empirical insights from a developing-country context, offering novel analysis of how micro-level proactive behavior can enhance macro-level digital governance outcomes. The study responds to gaps in research on silo mitigation and human-behavioral dynamics in public e-budgeting systems, offering evidence to inform strategies for improving integration, collaboration, and accountability in local government budgeting.

Method

This study employs a qualitative approach (Tracy, 2013; Yin, 2016) to explore how relational crafting helps overcome silo challenges in technology-based budgeting integration within local governments in Southeast Sulawesi, Indonesia. The research focuses on three regions—Muna Regency, Kolaka Regency, and Kendari City—which experience fragmented budget management across separate government units, creating coordination barriers and slowing budgeting and monitoring processes. These regions also face technical constraints, including limited infrastructure, insufficient digital skills, and employee resistance to technological change. The study aims to understand how relational crafting behaviors can address these challenges, support e-budgeting adoption, and enhance the effectiveness of technology integration in local budgeting systems.

The study involves key institutions engaged in budgeting: the Regional Development Planning Agency, the Regional Finance and Asset Management Agency, the Regional Agricultural Office, the Regional General Hospital, the Regional Investment and One-Stop Integrated Service Office, and the Regional Agency for Personnel and Human Resource Development. In Kolaka Regency, the Regional Health Office is included because the Regional General Hospital is not yet fully operational. A purposive sampling technique was used to recruit leaders and officials directly responsible for budgeting functions. In total, 49 participants from various administrative levels contributed to the research, selected based on their experience and involvement in the budgeting process and system integration. A detailed list of participating institutions and informants is provided in the Appendix (Table 1).

Data were collected through semi-structured in-depth interviews and direct observations. Interviews were conducted face-to-face and lasted approximately 90–

120 minutes, providing detailed insights into participants' views on technology-enabled budgeting and relational crafting practices. Observations complemented the interviews by capturing real-time interactions and budgeting activities in organizational settings.

Table 1. Sample of Local Government Organizations and Number of Informants

No.	Administrative Unit	Organization	Number of Informants
1	Southeast Sulawesi Province	Regional Research and Development Agency	4
2	Southeast Sulawesi Province	Regional Development Planning Agency	2
3	Southeast Sulawesi Province	Regional Finance and Asset Management Agency	3
4	Southeast Sulawesi Province	Regional Agency for Personnel and Human Resource Development	2
5	Southeast Sulawesi Province	Regional Investment and One-Stop Integrated Service Office	2
6	Southeast Sulawesi Province	Agricultural Technology Assessment Institute	2
7	Kendari City	Regional Development Planning Agency	2
8	Kendari City	Regional Finance and Asset Management Agency	3
9	Kendari City	Regional Investment and One-Stop Integrated Service Office	2
10	Kendari City	Regional General Hospital	2
11	Kendari City	Regional Agricultural Office	2
12	Kolaka Regency	Regional Development Planning Agency	2
13	Kolaka Regency	Regional Finance and Asset Management Agency	3
14	Kolaka Regency	Regional Investment and One-Stop Integrated Service Office	2
15	Kolaka Regency	Regional Health Office	2
16	Kolaka Regency	Regional Agricultural Office	2
17	Muna Regency	Regional Development Planning Agency	2
18	Muna Regency	Regional Finance and Asset Management Agency	3
19	Muna Regency	Regional Investment and One-Stop Integrated Service Office	2
20	Muna Regency	Regional General Hospital	2
21	Muna Regency	Regional Agricultural Office	3

Note: “Regional” refers to provincial, city, or regency government agencies in Indonesia.
Source: Authors’ fieldwork (2021).

Data analysis followed a thematic approach (Braun et al., 2018), with inductive coding derived from interview transcripts and field notes. Manual coding was performed, and inter-rater reliability was ensured by having two researchers independently code a subset of the data and compare results to strengthen consistency and reduce interpretive bias. In addition to coding transcripts line by line, emerging categories were continuously refined through iterative reading, memo writing, and cross-checking between data sources. Patterns, differences, and recurring concepts related to relational crafting, silo dynamics, and technology integration were systematically identified and organized into themes. Analytical triangulation was also applied by comparing interview insights with observations to validate interpretations. Data saturation was achieved when no new themes emerged and when conceptual depth and clarity had been sufficiently established across cases.

Ethical protocols were observed throughout the research process. Participants provided informed consent, and confidentiality was ensured through anonymization. Although no formal ethical approval procedure was required, the study underwent institutional academic integrity reviews by the Quality Control Board of the Regional Research and Development Agency of Southeast Sulawesi Province and the Institute for Research and Community Service, Halu Oleo University. These reviews covered the development of the terms of reference, proposal submission, research instruments, data analysis procedures, and final reporting. Reflexivity was practiced to minimize researcher bias, supported by triangulation and member checking to strengthen the credibility and trustworthiness of the findings. While the sample size limits generalization, this is characteristic of qualitative research and is balanced by the depth of insights and robust validation procedures used.

Result and Discussion

This chapter presents the empirical results and subsequent discussion regarding the adoption of e-budgeting in three regions of Southeast Sulawesi. The findings first outline key challenges in technology-based budget integration, including siloed institutional structures, technical limitations, and social barriers that hinder coordination and timely system adoption. The results then demonstrate how variations in relational crafting behaviors among budget actors shape responses to these challenges. The discussion further interprets these findings in relation to relevant theories, showing that proactive relational efforts—such as strengthening interdepartmental communication, trust-building, and collaborative problem-solving—play a critical role in breaking organizational silos, reducing resistance to change, and supporting smoother e-budgeting integration. Together, these insights explain why regions with stronger relational crafting practices experience more effective technology adoption and improved budget governance outcomes.

1. Challenges in Technology Integration in Budget Management: Silo, Technical, and Social Barriers

Challenges in technology integration for budget management include silo, technical, and social barriers. Silo barriers hinder collaboration in e-budgeting, while technical issues like infrastructure and device compatibility affect integration. Social barriers, such as relationship dynamics and resistance to change, also impede successful adoption.

a. Silo Barriers

This study identifies several silo-related barriers affecting technology integration in budget management across three regions in Southeast Sulawesi: Muna, Kolaka, and Kendari. The analysis highlights both general and region-specific challenges, emphasizing how the separation between units or departments in each area hinders collaboration and the adoption of the e-budgeting system.

***Separation Between Teams and Departments*.** In Muna and Kolaka, the lack of coordination between managerial and technical teams was a major barrier. Technical teams were often not involved in budget planning, leading to a mismatch between technical needs and budget policies (Interviews 1–12, 15). Kendari faced a similar challenge, although efforts were made to improve communication between the related units (Interviews 36, 42). This separation hindered the smooth integration of the e-budgeting system due to the misalignment between planning and implementation.

Lack of Collaboration Between Regions. In Muna and Kolaka, there were difficulties in sharing information and best practices between different regions. Each region implemented e-budgeting differently, and there were no official mechanisms to share experiences or technological solutions (Interviews 5, 9, 14). Kendari, despite having more consistent policies, also faced challenges in harmonizing technical policies between agencies (Interviews 37, 45). Moreover, the Province, as a supervisor and facilitator, did not function optimally in supporting inter-regional collaboration, as its authority, which should facilitate knowledge and experience sharing between regions, failed to meet expectations, leading each region to implement e-budgeting independently (Interviews 50, 51, 52). The isolation between regions slowed the system's standardization process and worsened the technical challenges faced by regions with weaker technology adoption. The Province's failure to act as a link between regions also hindered the creation of synergy in the system's implementation.

Overall, the silo barriers identified in Muna, Kolaka, and Kendari centered around the lack of collaboration between teams, regions, and management. This separation slowed down the technology integration process in e-budgeting systems and added complexity to its implementation. These challenges highlight the importance of improving relationships between units and regions to ensure more effective technology adoption.

b. Technical Barriers

This study identified several key technical barriers affecting technology integration in budget management across the three regions of Southeast Sulawesi—Muna, Kolaka, and Kendari. The analysis reveals shared and region-specific challenges, highlighting the varying infrastructure and technical readiness levels across the regions.

IT Infrastructure. Inadequate IT infrastructure is a major challenge, especially in Muna and Kolaka. Muna faces significant issues due to insufficient server and network capacity, outdated hardware, and incompatible software, which hinder the functionality of the e-budgeting system (Interviewees 1, 3, 7, 9). Kolaka faces similar issues with limited data centre capacity (Interviewees 16, 34). The e-budgeting system does not function optimally in both regions.

Network Capacity and Internet Connectivity. In Muna and Kolaka, internet connectivity issues and frequent power outages complicate technology adoption (Interviewees 2, 4, 8, 10, 30). While Kendari has better network infrastructure, issues are still related to limited network capacity (Interviewees 35, 49). Limited network capacity slows down data processing and disrupts the smooth operation of the e-budgeting system.

Hardware and Software. While Kendari has newer hardware, the inconsistent software updates hinder system integration and e-budgeting efficiency (Interviewees 37, 41). Outdated hardware in Muna and Kolaka also poses compatibility issues with newer software (Interviewees 17, 22, 26). Incompatibility between hardware and software limits the functionality of the e-budgeting system.

Technical and Data Standardization. All three regions face significant challenges with technical and data standardization. Muna and Kolaka struggle with the lack of standardized operating procedures (SOPs) and data formats, hindering e-budgeting implementation (Interviewees 6, 18, 23). Kendari is working on standardizing procedures, but discrepancies in data formats between agencies remain an issue (Interviewees 35, 42). Differences in data formats between agencies hinder the smooth integration of data and the effective implementation of the e-budgeting system.

All three regions face challenges due to a lack of technical and data standardization. Muna and Kolaka struggle with the absence of standardized operating procedures (SOPs) and data formats, hindering e-budgeting implementation (Interviewees 6, 23). While Kendari is working on standardizing procedures, discrepancies in data formats between agencies remain an issue (Interviewee 35, 42). These challenges highlight the difficulties in adopting technology for budget management in each region.

c. Human and Social Barriers

This section highlights the key human and social barriers affecting the adoption and integration of technology in budget management, organized by theme and

region. The analysis is drawn from interviews conducted with informants in Muna, Kolaka, and Kendari.

Lack of Skilled Human Resources. All three regions face a shortage of skilled IT personnel. Muna struggles the most, lacking the quantity and quality of professionals to effectively manage e-budgeting systems (Interviewees 5, 12). Kolaka has some skilled staff, but there are gaps in expertise, particularly for advanced technical needs (Interviewees 18, 22). Kendari has a slightly larger pool of IT professionals but still lacks specialized knowledge for complex e-budgeting tasks (Interviewees 42, 45).

Resistance to Change. Resistance to automation varies across the regions. In Muna, resistance is strong, with employees fearing losing control over budgeting and informal negotiation opportunities (Interviewees 3, 10). Kolaka experiences moderate resistance, with concerns about losing flexibility and control (Interviewees 17, 26). In Kendari, resistance is lower, but fears of losing influence in local governance and political negotiations still hinder full acceptance (Interviewees 40, 48).

Management Support and Leadership. In Muna, lack of senior management support is a key barrier, with delays and unclear direction in implementing e-budgeting (Interviewees 5, 12, 15). Kolaka faces inconsistent management support and slowing progress, with some being committed and others indifferent (Interviewees 19, 29). Kendari has more substantial management support, but local political dynamics complicate adoption, as political interests influence the implementation process (Interviewees 36, 47).

Social Dynamics. In Muna, social dynamics are more straightforward, but informal networks and personal influence still create resistance to automation (Interviewees 1, 9). Kolaka experiences mixed support and resistance, influenced by personal relationships and political interests, affecting technology adoption (Interviewees 16, 28). Kendari has the most complex social dynamics, with local power structures and clientelist networks significantly impacting support and resistance to e-budgeting (Interviewees 36, 49).

Overall, integrating technology into budget management in Southeast Sulawesi faces human and social barriers, with regional differences in challenges. Issues like lack of skilled personnel, resistance to change, and social dynamics impact e-budgeting adoption. These findings emphasize the need for region-specific strategies, focusing on training, leadership support, and addressing social dynamics to ensure smoother technology integration.

The adoption of e-budgeting in Southeast Sulawesi encounters three overarching constraints: silo barriers, technical limitations, and social resistance. These dimensions interact and reinforce one another, shaping how digital reforms unfold across regions. In Muna and Kolaka, siloed practices manifest through limited communication between planning, finance, and IT units, resulting in

fragmented workflows and inconsistent policy execution. Coordination gaps are especially pronounced between strategic decision-makers and technical administrators, slowing the translation of budgeting priorities into digital systems. Kendari exhibits similar structural risks, yet proactive inter-unit engagement has begun to reduce coordination gaps and enhance collaborative processes.

Technically, uneven digital capacity constrains system reliability. Muna and Kolaka struggle with outdated infrastructure, limited data center capacity, and network instability, creating operational bottlenecks and user frustration. Although Kendari has more advanced facilities, inconsistent software updates and integration challenges persist across agencies, reflecting the broader reality that infrastructure alone does not guarantee effective digital transformation. These technical gaps are compounded by the absence of standardized SOPs and data formats, resulting in duplication, incompatibility, and inconsistent implementation across regions.

Social factors further complicate transition efforts. In Muna, resistance to e-budgeting stems from entrenched informal practices and concerns about reduced discretion in decision-making. Similar, though less acute, dynamics exist in Kolaka, where informal networks shape acceptance of new systems. In Kendari, resistance is present but mitigated by stronger leadership commitment and a culture of administrative professionalism. Together, these challenges illustrate how bureaucratic politics, informal influence channels, and perceived threats to authority shape digital policy adoption.

These findings align closely with Organizational Silo Theory, where fragmented units hinder communication, reduce cooperation, and impede knowledge exchange (Weick, 1976). Mintzberg (1979) similarly argues that decentralized bureaucracies risk coordination failures when cross-unit collaboration mechanisms are weak. Lee (2024) extends this logic to digital governance, noting that decentralization in public finance systems often creates disjointed technological adoption paths unless supported by active coordination. From a technology adoption perspective, TAM posits that perceived usefulness and ease of use shape system acceptance (Davis, 1989), while DOI theory explains how political environments intensify resistance to innovation (Rogers, 2003). Consistent with Sandberg et al. (2021), silo structures reduce perceived system value and delay reform momentum.

2. The Role of Relational Crafting in Overcoming Silo Barriers and Technology Budget Integration

The role of relational crafting in overcoming silo barriers and integrating technology in budget management is explored in this study through two main themes: building trust and collaboration among stakeholders and enhancing communication and knowledge sharing through relational crafting. Both play crucial roles in facilitating the effective adoption and use of technology in budget management.

a. Building Trust and Collaboration Among Stakeholders

Trust and Collaboration. In Muna, political tensions and hierarchical barriers were the main factors hindering trust and effective collaboration between regions. This was evident in interviews with informants who stated that relationships among stakeholders in Muna were often impeded by mistrust and tensions rooted in political differences and rigid bureaucratic structures (Interviews 1, 7). In Kolaka, despite moderate partnerships and trust, further improvements were needed to strengthen collaboration among the various parties involved in the implementation of e-budgeting (Interviews 22, 30). In Kendari, trust and collaboration were stronger and functioning well, though there was still room for improvement, particularly in fostering a deeper understanding among stakeholders to support the smooth integration of technology in budgeting (Interviews 40, 45).

Relational Crafting and Coordination Between IT and Non-IT Staff. In Muna, limited relational crafting and weak coordination between departments were significant barriers to technology adoption, with staff being poorly connected and coordinated, leading to isolated problem-solving efforts (Interviews 2, 5, 14). In Kolaka, while moderate efforts were made in relational crafting and inter-department coordination, gaps remained that affected the smooth integration of technology (Interviews 20, 29). Meanwhile, in Kendari, relational crafting practices were active, and strong coordination between IT and non-IT staff supported more effective technology integration, allowing for faster and more accurate problem-solving (Interviews 36, 38, 43).

Effectiveness in Overcoming Resistance. In Muna, resistance to technology adoption was particularly strong, mainly due to weak relational networks among stakeholders. This created distrust and concerns about change, resulting in significant barriers to implementing the e-budgeting system (Interviews 4, 11). In Kolaka, while the resistance was more moderate, key individuals played a crucial role in reducing these barriers by building better relationships and fostering more effective collaboration (Interviews 19, 31). In Kendari, resistance to change was effectively addressed through structured relational crafting, where clear communication and collaboration among stakeholders helped reduce uncertainty and increased acceptance of the technology (Interviews 44, 46).

Overall, Muna faced difficulties with weak trust, political tensions, and poor coordination, which hindered technology adoption. Kolaka had made moderate progress but still required further improvements. Kendari excelled in relational crafting and coordination, overcoming resistance, and leading the technology integration process.

b. Improving Communication and Knowledge Sharing through Relational Crafting

Relational crafting plays a crucial role in enhancing communication and knowledge sharing among stakeholders in the context of technology integration in

budget management. Several key aspects highlight the role of relational crafting in overcoming communication barriers, knowledge exchange, and silo challenges, as follows:

Knowledge Sharing and Transfer. In Muna, knowledge sharing is limited due to weak informal networks and significant knowledge gaps between departments and stakeholders (Interviews 3, 9, 15). In Kolaka, knowledge sharing is moderate, but gaps between departments still hinder communication effectiveness (Interviews 16, 23, 31). Kendari demonstrates better knowledge sharing, although communication gaps between departments still require further improvement (Interviews 43, 47). Despite progress, these communication imbalances reinforce silo barriers that slow down technology adoption in all regions.

Relational Crafting and Coordination. Muna faces significant challenges in underutilizing relational crafting, which leads to isolated problem-solving and weak coordination between departments. This exacerbates the silo barriers in e-budgeting technology (Interviews 5, 14). In Kolaka, relational crafting is at a moderate level, and while communication between departments has slightly improved, coordination remains limited, and gaps still exist (Interviews 16, 18). Kendari shows active relational crafting practices, contributing to better coordination and more effective problem-solving, although some silo barriers still need to be addressed (Interviews 41, 46).

Impact on Addressing System Incompatibility. Problem-solving in Muna is slow due to an isolated work culture and poor coordination, which worsens existing silo barriers (Interviews 8, 11). In Kolaka, progress in addressing system incompatibility is moderate, but system issues still take time to resolve due to limited coordination and inter-departmental relationships (Interviews 24, 32). In Kendari, although problem-solving is more effective, challenges in overcoming silo barriers persist, but are not as severe as in Muna and Kolaka (Interviews 36, 41).

Overall, Muna faces significant communication and knowledge-sharing barriers due to ineffective relational crafting and weak coordination, which worsen silo barriers. Kolaka has made moderate progress but still struggles with communication gaps and silo barriers between departments. Kendari excels in relational crafting, coordination, and knowledge transfer, although challenges in achieving comprehensive communication across departments remain.

Relational crafting emerged as a key behavioral facilitator for bridging coordination failures and strengthening collaborative action. In Kendari, officials strategically developed informal networks, created cross-unit communication channels, and cultivated trust with technical teams. These proactive relational actions helped shift organizational norms from isolated working patterns toward cooperative, problem-oriented interaction. Such practices echo Job Crafting (JC) theory, which emphasizes employees' agency in reshaping work relationships to enhance performance (Noesgaard & Jørgensen, 2024). They also align with Tushman

and O'Reilly's (1996) notion of ambidextrous governance, where organizations balance existing routines with adaptive capabilities to integrate innovation.

In Kolaka, relational crafting practices exist but are uneven and personality-driven, creating inconsistent outcomes across units. Muna shows the weakest relational crafting, characterized by limited informal coordination and high dependence on formal procedures. This reflects Weick's (1976) concept of loose coupling, where weak relational structures impede system-level problem-solving. Thus, relational crafting is not only supplemental to structural reform; it becomes foundational in navigating political, cultural, and bureaucratic barriers to digital innovation.

3. The Impact of Relational Crafting in Overcoming Silos and the Success of Budget Technology Integration

Four main themes have been identified, including improved system effectiveness and efficiency, transparency and accountability, strengthening stakeholder engagement and collaboration, and reducing resistance to change through relational crafting. These themes illustrate how relational crafting can play a role in overcoming silos and supporting the success of budget technology integration.

a. Improved System Effectiveness and Efficiency

In Muna, weak relational crafting hinders technology adoption and reduces system effectiveness, exacerbating silo barriers between departments and stakeholders (Interviews 4, 8). Kolaka shows moderate improvement in coordination and system effectiveness, although silo barriers between departments still need further addressing (Interviews 17, 22). Kendari stands out in relational crafting, driving higher efficiency and better coordination between departments, successfully overcoming silo barriers (Interviews 37, 41). Overall, Muna faces significant challenges related to silos, Kolaka has shown progress, and Kendari leads in system effectiveness and interdepartmental collaboration.

b. Improvement in Transparency and Accountability

Relational crafting has improved transparency and accountability, although its impact varies across regions. In Muna, weak relational crafting and poor collaboration hinder transparency, increasing the risk of budget manipulation and worsening existing silos (Interviews 2, 4). In Kolaka, relational crafting has improved communication and transparency, but further efforts are needed to address silo barriers that impede smooth integration (Interviews 16, 20). Kendari has seen significant improvement, with stronger relational crafting resulting in better communication, higher transparency, and reduced risk of budget manipulation (Interviews 35, 38). Overall, Kendari and Kolaka show progress in transparency, while Muna continues to face challenges related to openness and silo barriers.

c. Strengthening Stakeholder Engagement and Collaboration

Relational crafting has enhanced interdepartmental collaboration and stakeholder engagement, facilitating e-budgeting integration. In Muna, weak informal networks and limited relational crafting hinder collaboration, slow down technology adoption, and exacerbate silos between departments (Interviews 1, 5). Through relational crafting efforts, Kolaka has seen improved communication and smoother integration, although silo barriers still obstruct some processes (Interviews 15, 18). Kendari benefits from strong informal networks, resulting in the most effective collaboration and seamless system adoption, successfully overcoming silo barriers to a significant degree (Interviews 36, 40). Muna continues to struggle with weak collaboration and significant silos, while Kolaka and Kendari show better engagement and integration due to stronger relational crafting.

d.Reduction of Resistance to Change through Relational Crafting

Relational crafting plays a key role in reducing resistance to change by addressing concerns and building trust. In Muna, resistance to technology adoption remains high due to fears of losing control and limited communication, which hampers relational crafting efforts in overcoming silo barriers (Interviews 1, 5). In Kolaka, moderate resistance can be eased through relational crafting, which improves communication and opens acceptance to e-budgeting (Interviews 16, 22). Kendari benefits from intense relational crafting, which builds trust and allows for smoother system adoption while reducing silo barriers (Interviews 36, 41). Relational crafting has successfully reduced resistance in Kolaka and Kendari, while Muna still faces greater resistance due to weaker efforts in building networks and communication.

Overall, relational crafting plays a crucial role in overcoming silo barriers and facilitating the integration of budget technology. Muna faces significant challenges with weak collaboration and significant silo barriers, which hinder technology adoption. Kolaka has made progress by improving communication and coordination, although there are still gaps that need to be addressed in overcoming interdepartmental silos. Kendari stands out as the most successful, with strong relational crafting that not only reduces silo barriers but also enhances transparency, accountability, and system effectiveness. In general, regions with stronger relational crafting efforts show more significant progress in successfully integrating budget technology.

To provide a clearer overview, Table 2 presents a comparison of the key barriers identified in Muna, Kolaka, and Kendari during e-budgeting implementation.

Table 2. Regional comparison of barriers and relational crafting in e-budgeting adoption

Dimension	Muna	Kolaka	Kendari
Silo Barriers	Very strong silos; limited cross-department interaction	Moderate silos; partial collaboration	Low silos; strong inter-department coordination
Technical Infrastructure	Weak infrastructure; frequent system issues	Moderate readiness; limited server capacity	Relatively advanced infrastructure
Network & Power Reliability	Frequent disruptions	Moderate stability	Generally stable
Human Resource Capacity	Low IT capability	Moderate IT capability	Higher IT capability
Resistance to Change	High fear of losing control	Moderate; mixed responses	Low; stronger acceptance
Leadership Support	Weak and inconsistent	Mixed commitment	Strong and consistent
Relational Crafting Strength	Low; weak informal networks	Moderate; emerging relational coordination	High; proactive cross-unit collaboration
Impact on E-Budgeting Adoption	Slow, fragmented adoption	Gradual progress	Smooth and effective adoption

Source: Research Interview Data, 2021.

Relational crafting not only improves communication but also shapes belief systems about technology benefits. In Kendari, stronger relational networks increased trust in the reform agenda, helping employees recognize the efficiency, transparency, and workflow improvements promised by e-budgeting. This corresponds to TAM's argument that positive perception of usefulness drives acceptance (Davis, 1989). It also reflects DOI's notion that social endorsement accelerates adoption (Rogers, 2003). Meanwhile, in Muna, relational deficits reinforced skepticism and fear of losing informal negotiating power, slowing adoption and prolonging reliance on manual processes.

Furthermore, relational crafting reduces ambiguity in system roles, shortens learning curves, and accelerates problem-resolution cycles. In Kendari, collaborative relationships allowed rapid troubleshooting and adaptive training; in Kolaka, moderate relational ties facilitated progress but revealed dependency on individual champions; in Muna, the absence of relational engagement preserved silo boundaries and slowed institutional learning.

These results reinforce Sandberg et al. (2021), who argue that relational networks enhance collective capability for technology integration, and Lee (2024), who shows that decentralized public institutions succeed when coordination norms are deliberately cultivated. Relational crafting thus emerges as a behavioral infrastructure supporting digital transformation—complementing, rather than substituting, technical capacity.

This study advances organizational theory by illustrating how relational crafting moderates silo effects and shapes technology implementation in public budgeting systems. It extends JC theory by demonstrating that proactive relational behaviors influence institutional reform outcomes. It also enriches TAM and DOI frameworks by showing that relational trust is a precursor to perceived technological value and adoption willingness. Practically, the findings highlight that strengthening human networks—through cross-functional forums, communication protocols, and trust-building—should accompany investment in IT infrastructure for meaningful digital governance. Despite its contributions, the study has limitations. The focus on Southeast Sulawesi may limit generalizability to regions with different administrative cultures. The qualitative approach, while rich, may not fully capture evolving dynamics as digital governance deepens. Future research could expand geographically, integrate quantitative validation, and explore longitudinal patterns to understand how relational crafting evolves alongside institutional digital maturity.

Conclusion

This study highlights the essential role of relational crafting in addressing siloed behaviors and improving the integration of e-budgeting systems in Southeast Sulawesi. The cases of Muna, Kolaka, and Kendari show that technical barriers, resistance to change, and fragmented interdepartmental structures hinder effective communication and collaboration during e-budgeting adoption. Muna illustrates how weak relational networks and entrenched silos obstruct technology integration, while Kendari demonstrates that strong relational crafting practices—through informal networks, open communication, and trust—facilitate smoother system implementation and enhance transparency. Kolaka shows partial progress, yet still faces challenges in aligning coordination across budgeting units.

The findings emphasize that technological readiness alone is insufficient; social dynamics and relational processes are equally critical to successful public-sector digital transformation. By positioning relational crafting as a behavioral mechanism to reduce resistance and strengthen coordination, this study contributes to Job Crafting, Diffusion of Innovation, and Technology Acceptance Model perspectives, illustrating how interpersonal collaboration shapes technology adoption in government settings. Practically, the results underscore the need for policymakers to cultivate trust-building, cross-unit collaboration, and relational capability alongside investing in digital infrastructure. Although the regional scope and modest sample size limit generalizability, future research should broaden coverage and employ longitudinal approaches to examine how relational crafting evolves and influences technology integration across diverse contexts.

References

Adade, D., & de Vries, W. T. (2024). An extended TOE framework for local government technology adoption for citizen participation: insights for city digital twins for collaborative planning. *Transforming Government: People, Process and Policy*. https://doi.org/10.1108/TG-01-2024-0025

Alam, S., Kadir, A., & Arsyad, M. (2025). Increasing Governance Innovation Capacity of Local Governments Through Knowledge-Seeking. *Hrvatska i Komparativna Javna Uprava*, *25*(2), 265–306. https://doi.org/10.31297/hkju.25.2.4

Alam, S., Larisu, Z., Arsyad, M., Kadir, A., Taufik, & Sudirman, F. A. (2025). Strengthening local asset management through an integrated policy ecosystem: The role of mid-level bureaucratic connectivity. *Public Money & Management*, *0962*(May), 1–11. https://doi.org/10.1080/09540962.2025.2504574

Ali, O., Shrestha, A., Osmanaj, V., & Muhammed, S. (2021). Cloud computing technology adoption: an evaluation of key factors in local governments. *Information Technology and People*, *34*(2), 666–703. https://doi.org/10.1108/ITP-03-2019-0119

Bartocci, L., Grossi, G., Mauro, S. G., & Ebdon, C. (2023). The journey of participatory budgeting: a systematic literature review and future research directions. *International Review of Administrative Sciences*, *89*(3), 757–774. https://doi.org/10.1177/00208523221078938

Boehnlein, P., & Baum, M. (2022). Does job crafting always lead to employee well-being and performance? Meta-analytical evidence on the moderating role of societal culture. *International Journal of Human Resource Management*, *33*(4), 647–685. https://doi.org/10.1080/09585192.2020.1737177

Braun, V., Clarke, V., Hayfield, N., & Terry, G. (2018). Thematic Analysis. In P. Liamputtong (Ed.), *Handbook of Research Methods in Health Social Sciences* (pp. 1–18). Springer Singapore. https://doi.org/10.1007/978-981-10-2779-6_103-1

Criado, J. I., & Zarate-Alcarazo, L. O. d. (2022). Technological frames, CIOs, and Artificial Intelligence in public administration: A socio-cognitive exploratory study in Spanish local governments. *Government Information Quarterly*, *39*(3), 101688. https://doi.org/10.1016/j.giq.2022.101688

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, *13*(3), 319–340. http://www.jstor.org/stable/249008

de Waal, A., Weaver, M., Day, T., & van der Heijden, B. (2019). Silo-Busting: Overcoming the Greatest Threat to Organizational Performance. *Sustainability*, *11*(23), 6860. https://doi.org/10.3390/su11236860

Frid, K., Funck, E. K., & Glenngård, A. H. (2024). Understanding collaboration beyond contracting: the relationship between inter-organizational collaboration and hard/soft control. *Journal of Public Budgeting, Accounting & Financial Management*, *36*(6), 47–71. https://doi.org/10.1108/JPBAFM-06-2023-0086

Henttu-Aho, T. (2018). The role of rolling forecasting in budgetary control systems: reactive and proactive types of planning. *Journal of Management Control*, *29*(3–4), 327–360. https://doi.org/10.1007/s00187-018-00273-6

Horton, K. E., & Wanderley, C. de A. (2024). I'd do anything, but I won't do that: Job crafting in the management accounting profession. *Accounting & Finance*, *64*(2), 1723–1743. https://doi.org/10.1111/acfi.13198

Johansson-Berg, T., & Wennblom, G. (2023). If managers feel safe, budget control becomes enabling. Evidence from a large local government organization in Sweden. *Journal of Public Budgeting, Accounting & Financial Management*, *35*(6), 154–179. https://doi.org/10.1108/JPBAFM-01-2023-0001

Johnson, B., Jones, P. A., & Reitano, V. (2021). Stakeholder networks and inclusive public participation mechanisms in the public budgeting process. *Urban Governance*, *1*(2), 98–106. https://doi.org/10.1016/j.ugj.2021.12.007

Junça-Silva, A., Silva, S., & Caetano, A. (2022). Job crafting, meaningful work, and performance: a moderated mediation approach of presenteeism. *SN Business & Economics*, *2*(4), 1–21. https://doi.org/10.1007/s43546-022-00203-8

Krah, R., & Mertens, G. (2023). Financial transparency, trust, and willingness to pay in local governments of sub-Saharan Africa. *Journal of Public Budgeting, Accounting & Financial Management*, *35*(6), 100–120. https://doi.org/10.1108/JPBAFM-06-2022-0110

Lazazzara, A., Tims, M., & de Gennaro, D. (2020). The process of reinventing a job: A meta–synthesis of qualitative job crafting research. *Journal of Vocational Behavior*, *116*(June 2018), 0–1. https://doi.org/10.1016/j.jvb.2019.01.001

Lee, M. Y. (2024). Enacting Decentralized Authority: The Practices and Limits of Moving Beyond Hierarchy. *Administrative Science Quarterly*, *69*(3), 791–833. https://doi.org/10.1177/00018392241257372

Leiren, M. D., & Jacobsen, J. K. S. (2018). Silos as barriers to public sector climate adaptation and preparedness: insights from road closures in Norway. *Local Government Studies*, *44*(4), 492–511. https://doi.org/10.1080/03003930.2018.1465933

Li, W., Chen, X., & Chen, Y. (2024). The Diffusion of Performance-Based Budgeting Reforms: Cross-Provincial Evidence from China. *Public Performance and Management Review*, *47*(1), 114–146. https://doi.org/10.1080/15309576.2023.2221222

Luu, T. T. (2021). Activating job crafting in public services: the roles of discretionary human resource practices and employee use of normative public values. *Public Management Review*, *23*(8), 1184–1216. https://doi.org/10.1080/14719037.2020.1730942

Mintzberg, H. (1979). The Structuring of Organisations: A Synthesis of the Research. In *The Strategy Process: Concepts, Contexts, Cases* (illustrate). Prentice-Hall. https://www.nrc.gov/docs/ML0907/ML090710600.pdf

Moreira, A., Encarnação, T., Viseu, J., & Sousa, M. J. (2022). Job Crafting and Job Performance: The Mediating Effect of Engagement. *Sustainability*, *14*(22), 14909. https://doi.org/10.3390/su142214909

Musadat, A. (2023). The effects of participatory budgeting on local government service delivery: evidence from Sumedang. *Bulletin of Indonesian Economic Studies*, *59*(1), 29–60. https://doi.org/10.1080/00074918.2021.1931031

Noesgaard, M. S., & Jørgensen, F. (2024). Building organizational commitment through cognitive and relational job crafting. *European Management Journal*, *42*(3), 348–357. https://doi.org/10.1016/j.emj.2023.01.002

Orton, J. D., & Weick, K. E. (1990). Loosely Coupled Systems: A Reconceptualization. *The Academy of Management Review*, *15*(2), 203. https://doi.org/10.2307/258154

Pulkkinen, M., Sinervo, L.-M., & Kurkela, K. (2024). Premises for sustainability – participatory budgeting as a way to construct collaborative innovation capacity in local government. *Journal of Public Budgeting, Accounting & Financial Management*, *36*(1), 40–59. https://doi.org/10.1108/JPBAFM-04-2022-0077

Rogers, E. M. (2003). *Diffusion of innovations.* (5th ed.). Free Press.

Rufini, La O. M., Syamsul Alam, Abdul Kadir, Faturachman A. Sudirman, and Al T. Badari. 2025. " Network Governance and Institutional Linkages for Strengthening Regional Innovation in Southeast Sulawesi," *Public Administration and Development*: 1–17. https://doi.org/10.1002/pad.70047.

Sandberg, R., Löwstedt, M., & Räisänen, C. (2021). Working in a loosely coupled system: exploring practices and implications of coupling work on construction sites. *Construction Management and Economics*, *39*(3), 212–226. https://doi.org/10.1080/01446193.2020.1849751

Schugurensky, D., & Mook, L. (2024). Participatory budgeting and local development: Impacts, challenges, and prospects. *Local Development and Society*, *5*(3), 433–445. https://doi.org/10.1080/26883597.2024.2391664

Scott, I., & Gong, T. (2021). Coordinating government silos: challenges and opportunities. *Global Public Policy and Governance*, *1*(1), 20–38. https://doi.org/10.1007/s43508-021-00004-z

Shou, M., Jia, F., Yu, J., & Wu, Y. (2025). Challenges in developing information and communication technology (<scp>ICT</scp>) use for rural e-governance: An ecology perspective. *Information Systems Journal*, *35*(1), 247–278. https://doi.org/10.1111/isj.12540

Sucupira, G., Saab, F., Demo, G., & Bermejo, P. H. (2019). Innovation in public administration. *Innovation & Management Review*, *16*(1), 72–90. https://doi.org/10.1108/INMR-03-2018-0004

Sudirman, F. A., Sari, E. I., & Abdullah, A. (2022). Penerapan E-Planning dalam Perencanaan Pembangunan Daerah di Kota Kendari: Kontribusi untuk SDGs. *NeoRespublica: Jurnal Ilmu Pemerintahan*, *3*(2), 174.

Szőts-Kováts, K., & Kiss, C. (2023). How is job crafting related to the individual's readiness for organizational change? *Heliyon*, *9*(4), e15025. https://doi.org/10.1016/j.heliyon.2023.e15025

Tims, M., Twemlow, M., & Fong, C. Y. M. (2022). A state-of-the-art overview of job-crafting research: current trends and future research directions. *Career Development International*, *27*(1), 54–78. https://doi.org/10.1108/CDI-08-2021-0216

Tracy, S. J. (2013). *Qualitative research methods: collecting evidence, crafting analysis, communicating impact*. Blackwell Publishing.

Tushman, M. L., & O'Reilly, C. A. (1996). Ambidextrous Organizations: Managing Evolutionary and Revolutionary Change. *California Management Review*, *38*(4), 8–29. https://doi.org/10.2307/41165852

Valle-Cruz, D., Fernandez-Cortez, V., & Gil-Garcia, J. R. (2022). From E-budgeting to smart budgeting: Exploring the potential of artificial intelligence in government decision-making for resource allocation. *Government Information Quarterly*, *39*(2), 101644. https://doi.org/10.1016/j.giq.2021.101644

Weick, K. E. (1976). Educational Organizations as Loosely Coupled Systems. *Administrative Science Quarterly*, *21*(1), 1. https://doi.org/10.2307/2391875

Yan, Y. C., & Lyu, S. J. (2023). Can e-government reduce local governments' financial deficits? - Analysis based on county-level data from China. *Government Information Quarterly*, *40*(3), 101812. https://doi.org/10.1016/j.giq.2023.101812

Yin, R. K. (2016). *Qualitative Research: from Start to Finish* (Second). The Guilford Press. https://www.pdfdrive.com/qualitative-research-from-start-to-finish-d184735356.html