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Data Governance and Privacy Challenges in Digital Public Services: Evidence from Eastern Samar, Philippines

Septian Bayu Kristanto[1*], Rodven Cases[2], Hyacinth Taon[3], Diane Elizabeth Mabansag[4], Norlyn Joy Fidelino[5]

[1]Krida Wacana Christian University, Indonesia
[2,3,4,5]Eastern Samar State University, Phillipines

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*Correspondence:
Septian Bayu Kristanto
Email:
septian.bayu@ukrida.ac.id

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A B S T R A C T

This study examines the challenges of data governance and privacy in digital public service delivery in Eastern Samar, Philippines, a region characterized by geographic isolation, economic vulnerability, and limited digital infrastructure. Using a mixed-methods approach, the research combines a survey of 300 residents with in-depth interviews involving 20 key stakeholders, including government officials, civil society representatives, and ICT practitioners. The findings reveal a significant gap between national data governance frameworks and their implementation at the local level. While policies such as the Data Privacy Act provide a formal foundation, their practical application remains constrained by low digital literacy, weak institutional capacity, and inadequate infrastructure. The study also identifies a pervasive trust deficit, as many citizens express concerns regarding data misuse and lack confidence in government data management practices. Despite these challenges, there is strong public interest in engaging with digital public services, particularly among younger populations, indicating potential for more inclusive digital transformation. Practically, the study suggests that local governments should prioritize targeted digital literacy programs, strengthen institutional capacity through training and resource allocation, and enhance transparency mechanisms to build public trust. Furthermore, the integration of accountability frameworks, such as clear data governance procedures and oversight systems, is essential to ensure ethical data management and sustainable digital governance. These findings contribute to the broader discourse on governance and accountability in digital public service delivery, particularly in underdeveloped and disaster-prone regions.

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1. Introduction

The digital revolution has catalyzed a global transformation in public administration, with governments increasingly adopting technology to enhance service delivery. This transition, often framed as digital governance, has the potential to streamline bureaucratic processes, promote transparency, and deepen civic participation (UN, 2022). However, alongside these

opportunities come considerable challenges, particularly regarding the ethical management of personal data. As public institutions adopt digital platforms, they accumulate large volumes of citizen data, raising critical concerns about data governance and privacy (Al-Abdullah et al., 2020).

These challenges are particularly evident in developing contexts such as Eastern Samar in the Philippines. Empirical findings from this study show that only 48% of respondents reported having reliable internet access, while 45% had heard of the concept of data privacy and only 30% could accurately define it. Furthermore, 72% of respondents expressed concerns about potential data misuse, and only 37% reported trust in local government institutions to manage personal data securely. These findings are consistent with prior studies indicating that digital governance in developing regions is often constrained by limited infrastructure, low digital literacy, and institutional capacity gaps (Tangi et al., 2021; Zhang et al., 2023). This combination of structural and socio-institutional barriers underscores the need for context-specific and inclusive digital governance strategies.

In the Philippines, the shift toward digital governance is guided by national frameworks such as the Data Privacy Act of 2012 and the e-Government Master Plan 2022. However, translating these national ambitions into meaningful change at the local level remains a persistent challenge, particularly in remote provinces like Eastern Samar. Situated in Eastern Visayas, Eastern Samar is a predominantly rural province marked by persistent poverty, vulnerability to typhoons, and limited access to digital infrastructure. These contextual factors shape both the capacity of local governments to implement data governance protocols and the public's ability to exercise digital rights. In this environment, safeguarding privacy while promoting digital inclusion requires a careful, context-sensitive approach.

This study offers a novel contribution by focusing on Eastern Samar, a remote, disaster-prone, and economically underdeveloped province that has received limited attention in digital governance research. Existing studies on digital governance and e-government have predominantly focused on urban settings and technologically advanced regions, where infrastructure, institutional capacity, and digital literacy are relatively well developed (Tangi et al., 2021; UN, 2022; Zhang et al., 2023). As a result, there remains a significant gap in understanding how digital governance frameworks operate in rural and marginalized contexts, particularly in areas characterized by geographic isolation and socio-economic vulnerability.

Addressing this gap, this study explores how global digital governance frameworks, such as data privacy policies and e-government strategies, interact with local capacities and challenges in Eastern Samar. By using a mixed-methods approach, the research uncovers the socio-technical and institutional realities that shape public trust, data ethics, and digital service adoption at the grassroots level. The findings provide empirical grounding to extend existing theories of digital governance into underrepresented rural contexts and offer practical insights for designing inclusive, ethical, and resilient digital transformation strategies in similar Global South settings.

2. Literature Review

2.1. Digital Governance and Institutional Capacity

This study is grounded in three interrelated theoretical perspectives that frame the analysis of digital public service delivery. First, Digital Trust Theory (Carter & Bélanger, 2005) explains how citizens' perceptions of institutional reliability, data security, and accountability influence their willingness to adopt e-government services. Trust is particularly critical in environments where institutional credibility is limited and concerns about data misuse are prevalent. Second, the Institutional Capacity Model (Heeks, 2010) provides a framework to assess the readiness of public institutions to implement digital governance initiatives. The model emphasizes the importance of human resources, organizational structures, technological infrastructure, and leadership in determining the success of digital transformation efforts. Recent studies further

highlight that digital government transformation is not solely a technological process but also an institutional and organizational challenge that requires alignment between policy design and implementation (Tangi et al., 2021). Third, principles of Data Ethics are applied to evaluate how governments manage citizen data responsibly, including issues of consent, fairness, accountability, and transparency (Eke & Stahl, 2024). Ethical data governance is increasingly recognized as a core component of digital governance, particularly in contexts where regulatory enforcement and public awareness remain limited. Together, these perspectives suggest that infrastructural limitations and human resource constraints influence institutional capacity, which in turn shapes ethical data practices and public trust in digital systems. This integrated framework provides a foundation for analyzing the implementation of digital governance in developing and marginalized regions.

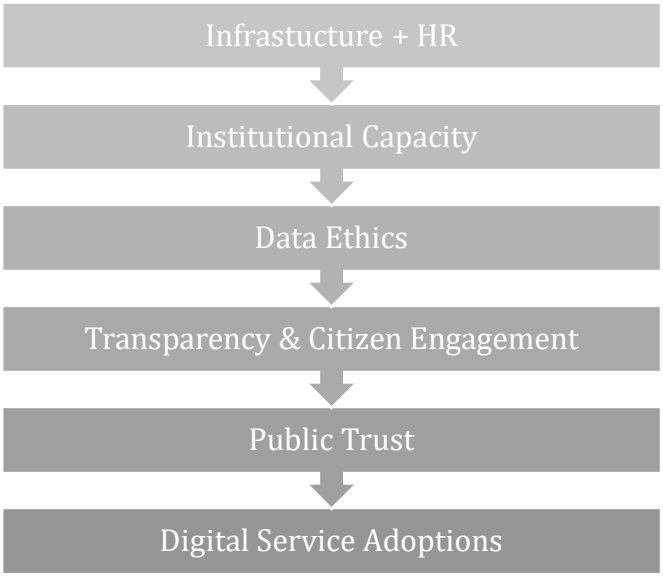

Figure 1. Digital Governance in Eastern Samar

2.2. Transparency and Citizen Engagement in Digital Governance

Recent literature emphasizes that are fundamental components of effective digital governance, particularly in enhancing accountability and public trust (CCC, 2015; Kosack & Fung, 2014; Piotrowski & Van Ryzin, 2007) . Transparency refers to the extent to which governments provide accessible, timely, and accurate information regarding public services, policies, and data management practices. In digital contexts, transparency is often facilitated through open data platforms, online service portals, and real-time information systems, which reduce information asymmetry and enable public scrutiny.

Citizen engagement, on the other hand, reflects the active involvement of individuals in governance processes, including participation in decision-making, feedback provision, and co-production of public services. Digital technologies have expanded opportunities for engagement by enabling interactive communication channels between governments and citizens, thereby transforming traditional top-down service delivery models into more participatory systems. Recent empirical studies demonstrate that transparency and citizen engagement significantly contribute to improved governance performance, institutional accountability, and public trust (CCC, 2015; Cifuentes-Faura et al., 2024; Piotrowski & Van Ryzin, 2007). However, comparative international evidence suggests that these benefits are more pronounced in developed countries, where digital infrastructure and institutional capacity are well established. In contrast, developing regions often face structural barriers, such as limited internet access, low digital literacy, and weak governance systems, which constrain the effectiveness of transparency initiatives and reduce meaningful citizen participation (Barrett et al., 2010; Linares, 2016; McGee & Gaventa, 2010). These findings highlight that transparency

and citizen engagement are not automatically achieved through digitalization but require supportive institutional and socio-technical conditions. Therefore, incorporating these concepts into the analytical framework is essential for understanding variations in public trust and digital service adoption, particularly in underserved contexts such as Eastern Samar.

2.3. Data Governance and Privacy in Developing Contexts

The rapid expansion of digital public services has intensified concerns regarding data governance and privacy, particularly in developing countries. Data governance encompasses the policies, standards, and institutional practices that regulate the collection, storage, processing, and use of data, ensuring its security, integrity, and ethical use (Otto, 2011). Privacy protection is a critical component of this framework, as governments increasingly manage large volumes of sensitive personal data. Recent global studies highlight that while many countries have established formal data protection regulations, significant gaps remain in implementation, especially at the local level (UN, 2022). These gaps are often attributed to limited institutional capacity, inadequate infrastructure, and low levels of public awareness regarding data rights. In developing contexts, these challenges are further exacerbated by socio-economic inequalities and uneven access to digital technologies.

Comparative international research indicates that developed countries tend to have more robust data governance systems, supported by strong regulatory enforcement, advanced technological infrastructure, and higher levels of digital literacy. In contrast, developing regions frequently experience weak compliance mechanisms, fragmented policy implementation, and increased vulnerability to data misuse and cybersecurity risks (Tangi et al., 2021; Zhang et al., 2023). These disparities underscore the importance of context-sensitive approaches to data governance and privacy. In regions such as Eastern Samar, where infrastructure limitations and digital literacy gaps persist, the effectiveness of data governance frameworks depends not only on formal regulations but also on local capacity, community awareness, and trust in public institutions. This perspective is crucial for interpreting the empirical findings of this study, particularly in relation to low levels of trust, limited awareness of data privacy, and concerns about data misuse.

3. Research Method

This study employed a mixed-methods research design, specifically a convergent parallel approach, to comprehensively examine data governance and privacy in digital public service delivery within Eastern Samar. This approach involves the simultaneous collection and analysis of quantitative and qualitative data, allowing for the integration of numerical trends with in-depth contextual insights (Cresswell & Creswell, 2018).

The quantitative component, based on a structured survey of 300 residents, was used to capture general patterns related to awareness, trust, and experiences with digital public services. Meanwhile, the qualitative component, consisting of semi-structured interviews with key stakeholders, provided deeper insights into institutional practices, governance challenges, and contextual factors influencing data privacy and digital service adoption.

By integrating these two strands of data during the interpretation phase, the study aims to achieve methodological triangulation, enhancing the validity and robustness of the findings. This design is particularly suitable for exploring complex socio-technical phenomena, such as digital governance, where both measurable trends and contextual understanding are essential.

3.1. Quantitative Data Collection

A structured survey was conducted among 300 residents of Eastern Samar who had accessed digital government services within the past 12 months. The sample size was determined using standard sampling formulas, referencing provincial population data from the Philippine Statistics Authority (PSA) and adjusting for the desired confidence level and margin

of error. To ensure representativeness, a stratified random sampling method was employed by dividing the population according to location (urban vs. rural), age group, and gender. Participants were proportionally selected from municipalities such as Borongan, Guiuan, Dolores, and Can-avid, representing both urban centres and geographically isolated rural barangays.

The survey instrument was developed through a rigorous process involving a review of existing literature on digital governance, the adaptation of relevant items to the local context of Eastern Samar, and pilot testing in two municipalities. The final instrument covered several key areas: (1) awareness of data governance and privacy, which assessed residents' familiarity with core concepts, legislation, and digital rights; (2) perceptions of digital data security and trust in public institutions, focusing on the level of trust in government entities to manage personal data ethically and securely; (3) experience with digital public services, including the types of services used, user satisfaction, and encountered barriers; and (4) willingness to share personal data, examining the conditions under which residents would agree to share data for public or commercial purposes.

To account for the relatively low digital and traditional literacy levels in parts of the province, face-to-face interviews were conducted by trained enumerators using printed copies of the questionnaire. Enumerators underwent intensive training on data ethics, neutrality, and cultural sensitivity, and administered surveys in either Waray-Waray or Filipino depending on respondent preference. All participants provided verbal informed consent, and confidentiality protocols were strictly followed.

The draft questionnaire underwent a pilot test involving 30 respondents from two municipalities (Borongan and Dolores) to ensure contextual clarity and content relevance. Based on feedback, minor adjustments were made to language and item sequencing. Internal consistency was assessed using Cronbach's alpha, yielding a score of 0.81 across key constructs, indicating good reliability. Data entry was double-checked for accuracy, and quantitative analysis was conducted using SPSS version 26, focusing on descriptive statistics, cross-tabulations, and exploratory correlation patterns.

3.2. Qualitative Data Collection and Analysis

To complement the quantitative findings, this study employed a qualitative approach using semi-structured interviews with 20 purposively selected key informants. The participants included local government officials, ICT personnel, civil society representatives, and academic experts who possess direct experience and insights related to digital governance and data privacy in Eastern Samar. The purposive sampling technique was applied to ensure the inclusion of stakeholders with relevant knowledge and involvement in digital public service delivery.

Data collection was conducted through both face-to-face and online interviews, depending on participants' availability and geographic location. Each interview followed a semi-structured protocol covering key themes such as data governance practices, perceived risks and benefits of digital services, institutional challenges, and strategies for improving public trust and accountability. With participants' consent, all interviews were audio-recorded and subsequently transcribed verbatim to ensure accuracy.

The data processing phase involved organizing and preparing the transcripts for analysis, including data cleaning, anonymization, and formatting. A thematic analysis approach was employed to systematically identify patterns and recurring themes within the data. The coding process was conducted in multiple stages, beginning with open coding to generate initial codes from the raw data, followed by axial coding to group related codes into broader categories, and finally selective coding to refine key themes aligned with the research objectives.

To support the analysis, qualitative data were managed and coded using NVivo 12 software, which facilitated systematic organization, retrieval, and comparison of coded segments. The use

of software tools enhanced the transparency and consistency of the coding process. To ensure reliability, coding was reviewed iteratively, and emerging themes were cross-checked against the data.

The final stage involved interpreting the qualitative findings by linking identified themes with the quantitative results, enabling triangulation and a more comprehensive understanding of the research problem. This integrated approach allowed the study to capture both the structural and contextual dimensions of data governance and privacy in digital public service delivery.

3.3. Policy and Framework Review

In addition to field data, the study included a policy analysis of both national and local frameworks related to digital governance and data privacy. Key documents reviewed in this analysis included the Data Privacy Act of 2012, the e-Government Master Plan 2022, and relevant local ordinances or executive orders concerning information and communications technology (ICT) and digital transformation in Eastern Samar. These policies were examined in relation to international benchmarks such as the European Union's General Data Protection Regulation (GDPR) and the OECD Privacy Guidelines. The analysis focused on identifying areas of alignment, existing gaps, and the feasibility of implementation within the provincial context.

3.4. Ethical Considerations

Ethical research principles were central throughout this study. All participants were briefed on the purpose of the research, assured of anonymity, and provided consent before participating. Data were securely stored and anonymized. The research protocol was reviewed and approved by the ethics board of the lead academic institution, in compliance with Philippine regulations on human subject research. All data were anonymized prior to analysis, and password-protected files were used throughout data storage and processing. Data processing and visualization were conducted using SPSS and Microsoft Excel, with procedures aligned to ethical standards on digital data handling. Qualitative data were coded and analyzed using thematic analysis with the support of NVivo 12, allowing for systematic identification of recurring themes and sub-themes across interviews.

4. Results and Discussion

4.1. Participant Characteristics

The quantitative sample (N = 300) consisted of residents from both urban centers (e.g., Borongan, Guiuan) and rural or coastal barangays (e.g., Maslog, Hernani, and Jipapad). Participants were evenly distributed across age groups, with the largest segment aged 25–34 (29%) and a significant proportion aged 18–24 (27%), suggesting strong youth representation. Gender distribution was relatively balanced, with 52% female and 48% male respondents. Education levels ranged from elementary (22%), high school (38%), to college or higher (35%), reflecting the varied literacy landscape of the province.

Occupationally, fishing and farming accounted for 21%, with 18% involved in microenterprises and 25% reporting unemployment. Notably, 12% were employed in public service roles, providing valuable perspectives on internal digital practices. The qualitative sample (N = 20) included municipal ICT officers, provincial government officials, NGO workers, school-based IT coordinators, and local technology practitioners. A majority were based in urban municipalities, although several represented remote areas such as Llorente and Dolores. This diversity ensured broad perspectives across geographic, institutional, and professional lines.

4.2. Citizens' Awareness and Understanding of Data Privacy

The first research question examines the level of citizens' awareness and understanding of data privacy. The survey results indicate that 45% of respondents reported being aware of data privacy concepts; however, only 30% demonstrated a clear understanding of its meaning and implications (Table 1). This disparity suggests that awareness alone does not necessarily translate into adequate comprehension. Qualitative findings further reveal that many respondents associate data privacy only with basic confidentiality, lacking a deeper understanding of rights, consent, and data protection mechanisms. This reflects a broader issue of limited digital literacy in the region. These findings are consistent with recent studies highlighting that low digital literacy significantly constrains the effectiveness of digital governance, particularly in developing contexts (Al-Abdullah et al., 2020; Eke & Stahl, 2024; P. Pareja, 2025; Tangi et al., 2021; Zhang et al., 2023). In addition, inadequate public education initiatives and limited institutional efforts to disseminate information on data privacy contribute to this knowledge gap. From a governance perspective, this indicates the need for stronger transparency mechanisms and citizen-oriented awareness programs.

Table 1. Public Awareness and Trust in Data Governance (N = 300)

Indicator	% of respondents
Have heard of "Data Privacy"	45%
Can accurately define "Data Privacy"	30%
Aware of national data protection law	59%
Trust LGUs to manage personal data	37%
Concerned about data misuse	72%

Source: Interview (2025)

4.3. Public Trust in Government Data Management

The second research question focuses on public trust in government institutions regarding the management of personal data. The findings show that only 37% of respondents expressed trust in local government institutions, while a majority either expressed distrust or uncertainty. A key factor influencing this low level of trust is the high level of concern regarding data misuse, as indicated by 72% of respondents. Interview data suggest that respondents perceive government systems as lacking sufficient safeguards and transparency in handling personal information. These findings align with Digital Trust Theory, which posits that trust is shaped by perceptions of security, transparency, and accountability (Carter & Bélanger, 2005). Recent literature further emphasizes that transparency and effective communication are critical determinants of trust in digital governance (Cifuentes-Faura, 2024; Kosack & Fung, 2014). In the context of Eastern Samar, the absence of clearly communicated data governance policies and limited visibility of data protection practices undermine institutional credibility. This highlights the importance of strengthening transparency and accountability mechanisms to enhance public trust and encourage the adoption of digital public services.

4.4. Institutional Capacity and Data Governance Practices

The third research question examines the institutional capacity of local governments to implement effective data governance practices. The findings reveal that while digital initiatives have been introduced, their implementation remains constrained by infrastructural limitations, limited technical expertise, and insufficient financial resources. Qualitative evidence indicates that local government units face challenges in maintaining secure data systems, enforcing data protection policies, and training personnel in digital governance practices. These constraints limit the effectiveness of existing data governance frameworks. These findings are consistent

with the Institutional Capacity Model, which emphasizes the importance of organizational readiness, human resources, and infrastructure in digital transformation (Heeks, 2010). Recent studies also confirm that institutional capacity gaps are a major barrier to effective data governance in developing regions (Tangi et al., 2021; Zhang et al., 2023). In Eastern Samar, these limitations are further compounded by geographic isolation and disaster vulnerability, which affect the sustainability of digital infrastructure. This suggests that strengthening institutional capacity is a prerequisite for improving data governance and ensuring the ethical management of citizen data.

4.5. Transparency, Citizen Engagement, and Digital Service Adoption

The fourth research question explores the role of transparency and citizen engagement in influencing digital service adoption. The results indicate that citizen engagement in digital governance remains relatively low, with limited participation in feedback mechanisms and decision-making processes. Survey findings show that respondents rarely interact with digital government platforms beyond basic service usage. Interviews reveal that a lack of awareness, limited trust, and insufficient communication channels reduce opportunities for meaningful engagement. These findings support recent literature emphasizing that transparency and citizen engagement are essential for improving governance outcomes, accountability, and public trust (Barrett et al., 2010; CCC, 2015; Cifuentes-Faura et al., 2024; McGee & Gaventa, 2010; Piotrowski & Van Ryzin, 2007). However, international comparisons suggest that these benefits are more evident in contexts with strong institutional support and digital infrastructure. In Eastern Samar, the lack of interactive platforms and proactive government outreach limits citizen participation, thereby weakening the impact of digital governance initiatives. This indicates that digital transformation efforts must go beyond technological implementation to include strategies that actively engage citizens and promote transparency.

5. Conclusion

This study examined data governance and privacy in digital public service delivery in Eastern Samar by addressing four key dimensions: citizen awareness, public trust, institutional capacity, and the role of transparency and citizen engagement. The findings reveal that although a moderate level of awareness exists, a significant gap remains in citizens' understanding of data privacy, which limits their ability to engage effectively with digital services. Public trust in government data management is relatively low, primarily due to concerns about data misuse and limited transparency. Furthermore, institutional capacity constraints, including inadequate infrastructure, limited technical expertise, and weak policy implementation, hinder the effectiveness of data governance practices. The study also finds that transparency and citizen engagement play a critical role in shaping trust and digital service adoption, yet both remain underdeveloped in the local context. From an academic perspective, this study extends Digital Trust Theory and the Institutional Capacity Model by integrating transparency and citizen engagement as essential components of digital governance in developing regions. The findings also contribute to the limited body of literature on rural and underserved contexts, offering international relevance for Global South countries facing similar socio-technical and institutional challenges. Overall, the study highlights that successful digital governance requires not only technological advancement but also institutional strengthening, ethical data practices, and inclusive citizen engagement strategies.

5.1. Research Limitations

This study has several limitations that should be acknowledged. First, the research is geographically limited to Eastern Samar, which may restrict the generalizability of the findings

to other regions with different socio-economic and institutional conditions. Second, the study relies on self-reported survey data, which may be subject to response bias and differences in individual interpretation of data privacy concepts. Third, while the mixed-methods approach provides comprehensive insights, the qualitative sample size remains limited and may not fully capture all stakeholder perspectives. Future research is encouraged to expand the geographical scope, incorporate longitudinal data, and explore comparative studies across different regions or countries to enhance the robustness and generalizability of findings.

5.2. Future Research

Building on the limitations of this study, several directions for future research can be proposed. First, future studies could expand the geographical scope by conducting comparative analyses across different regions or countries to examine how varying institutional capacities and socio-economic conditions influence data governance and privacy practices. Such comparative approaches would enhance the generalizability of findings and provide deeper insights into global patterns of digital governance. Second, longitudinal research is recommended to capture changes in public awareness, trust, and institutional capacity over time, particularly as digital transformation initiatives continue to evolve. This would allow researchers to assess the long-term impact of policy interventions and technological developments on data governance outcomes. Third, future research could adopt more advanced analytical approaches, such as structural equation modeling or experimental designs, to examine causal relationships between key variables, including transparency, citizen engagement, and trust in digital public services. Finally, further studies should explore the role of emerging technologies, such as artificial intelligence and big data analytics, in shaping data governance frameworks and ethical considerations in public service delivery.

Bibliography

Al-Abdullah, M., Alsmadi, I., Al-Abdullah, R., & Farkas, B. (2020). Designing privacy-friendly data repositories: a framework for a blockchain that follows the GDPR. *Digital Policy Regulation and Governance*, *22*(5/6), 389–411. https://doi.org/10.1108/dprg-04-2020-0050

Barrett, G., Calland, R., Carlitz, R., Joshi, A., McGee, R., & Acosta, A. M. (2010). *The Impact and Effectiveness of Transparency and Accountability Initiatives* (pp. 1–128).

Carter, L., & Bélanger, F. (2005). The utilization of e-government services: citizen trust, innovation and acceptance factors*. *Information Systems Journal*, *15*(1), 5–25. https://doi.org/10.1111/j.1365-2575.2005.00183.x

CCC, C. and C. C. (2015). *Transparency and accountability in local government* (Number December).

Cifuentes-Faura, J. (2024). Government transparency and corruption in a turbulent setting: The case of foreign aid to Ukraine. *Governance*, *37*(2), 659–670. https://doi.org/10.1111/gove.12835

Cifuentes-Faura, J., Simionescu, M., & Hudakova, M. (2024). Exploring the causality between transparency and public finance indicators among Spanish local governments to improve competitiveness. *Journal of Competitiveness*, *16*(2), 240–261. https://doi.org/10.7441/joc.2024.02.12

Cresswell, J. W., & Creswell, J. D. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (5th ed.). SAGE Publications Inc.

Eke, D., & Stahl, B. (2024). Ethics in the Governance of Data and Digital Technology: An Analysis of European Data Regulations and Policies. *Digital Society*, *3*(1), 11. https://doi.org/10.1007/s44206-024-00101-6

Heeks, R. (2010). Do information and communication technologies (ICTs) contribute to development? *Journal of International Development*, *22*(5), 625–640. https://doi.org/10.1002/jid.1716

Kosack, S., & Fung, A. (2014). Does Transparency Improve Governance? *Annual Review of Political Science*, *17*(1), 65–87. https://doi.org/10.1146/annurev-polisci-032210-144356

Linares, A. (2016). Access and citizen participation. An update of indicators for the democratization of communications. *Intercom: Revista Brasileira de Ciências Da Comunicação*, *39*(3), 37–52. https://doi.org/10.1590/1809-5844201633

McGee, R., & Gaventa, J. (2010). *Review of impact and effectiveness of transparency and accountability initiatives*. www.transparency-initiative.org%5CnCopyright

Otto, B. (2011). A Morphology of the Organisation of Data Governance. *European Conference on Information Systems (ECIS)*, 272. http://aisel.aisnet.org/ecis2011/272

P. Pareja, H. (2025). Artificial Intelligence as A Driver of Digital Government Transformation: Applications and Trends in Government Operations in the Philippines. *Policy & Governance Review*, *9*(3), 302. https://doi.org/10.30589/pgr.v9i3.1257

Piotrowski, S. J., & Van Ryzin, G. G. (2007). Citizen Attitudes Toward Transparency in Local Government. *The American Review of Public Administration*, *37*(3), 306–323. https://doi.org/10.1177/0275074006296777

Tangi, L., Janssen, M., Benedetti, M., & Noci, G. (2021). Digital government transformation: A structural equation modelling analysis of driving and impeding factors. *International Journal of Information Management*, *60*, 102356. https://doi.org/10.1016/j.ijinfomgt.2021.102356

UN. (2022). The Sustainable Development Goals Report 2022. In *United Nations publication issued by the Department of Economic and Social Affairs*. https://unstats.un.org/sdgs/report/2022/%0Ahttps://www.un-ilibrary.org/content/books/9789210018098%0Ahttps://www.un-ilibrary.org/content/books/9789210478878

Zhang, Q., Webster, N. A., Han, S., & Ayele, W. Y. (2023). Contextualizing the rural in digital studies: A computational literature review of rural-digital relations. *Technology in Society*, *75*, 102373. https://doi.org/10.1016/j.techsoc.2023.102373