



Enhancing Institutional Efficiency Through E-Governance: A Case Study of a Tertiary Education Institution in Koronadal City, Philippines

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Abstract

This qualitative single-case study investigated how e-governance supports institutional efficiency in a private tertiary college in Koronadal City, Philippines. While digital systems are widely adopted in large urban universities, their effectiveness in smaller institutions is less understood. Challenges such as limited access to devices, insufficient follow-up training, and inconsistent system use persist. Using thematic analysis of administrators' interviews and document reviews, six themes were identified: digital transformation as a driver of efficiency; enhanced communication and coordination; barriers to implementation and unequal access; training and support as catalysts for adoption; human error and system reliability; and a vision for future growth and integration. Digital tools facilitated rapid registration, streamlined collaboration, and reduced repetitive administrative work. These findings contribute to the literature by demonstrating administrators' experiences in a provincial setting. The study suggests that e-governance can significantly enhance institutional performance in resource-limited setting, provided there is adequate training, inclusive policies, and user accountability. With insights drawn from seven administrators, the results offer practical insights for other institutions seeking to sustainably and equitably digitize their services, while also contributing to a more inclusive understanding of digital governance in higher education.

Keywords: e-governance, institutional efficiency, digital transformation, higher education, case study, thematic analysis, Philippines, resource-limited setting



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INTRODUCTION

E-governance is the use of digital tools and communication technology to improve system administration and service delivery. Originally limited to government offices, e-governance now extends to healthcare, banking, transportation, and other public services. Estonia, South Korea, and India have demonstrated how digital platforms can simplify processes, reduce corruption, and enhance government transparency and participation. Digital identities, electronic portals, and paperless procedures enhance efficiency and decrease errors.

E-governance systems began to emerge in the early 2000s to simplify administrative tasks. The

COVID-19 pandemic has made this move even more imperative, as it has compelled even small businesses to go online.

Recent research demonstrates both the potential and complexity of e-governance in higher education. While many studies highlight efficiency improvements, researchers often overlook the limitations of e-governance systems in resource-constrained institutions. At the University of Ha'il, Ibrahim (2021) found that over 80% of performance improvements were attributed to digital systems. Lubis et al. (2024) argued that e-governance promotes sustainable development by better resource management and reporting. According to this research, e-governance offers both short and long-term advantages.

There is a lack of knowledge about how administrators utilize these technologies, the challenges they face, and their effectiveness. Many rural schools may be unable to benefit from national digital initiatives without access to localized knowledge and expertise. In the absence of local experience, national digital initiatives may fail to meet the needs of many schools located in rural areas.

Given this context, the present study aims to address the lack of contextualized data on e-governance within provincial higher education institutions. To guide the analysis, this study is anchored in Bostrom and Heinen's (1977) socio-technical systems theory, which emphasizes that organizational performance is shaped by the interaction between technological systems and human factors. In the context of e-governance, institutional efficiency depends not only on digital infrastructure but also on users' skills, organizational support, and policy alignment. This study investigates the lived experiences of administrators at GVC College to assess the role of e-governance in enhancing institutional efficiency. It seeks to identify effective strategies, barriers to progress, and opportunities for developing more inclusive and sustainable digital governance.

While much has been written about e-governance in urban, resource-rich environments, a significant gap remains: how do these systems perform in under-resourced colleges? More importantly, what do administrators at the front lines of implementation have to say about their digital experiences? This study foregrounds this missing perspective. In doing so, it aims to inform future policy and practice while contributing to a more inclusive understanding of how digital systems shape institutional performance across all levels of higher education.

LITERATURE REVIEW

E-governance has enhanced efficiency, transparency, and service delivery in higher education through the use of digital

technologies. Educational institutions must understand e-governance to keep pace with global digital developments and to improve stakeholder experiences. This literature review examines the advantages, constraints, and implications of e-governance in higher education, specifically in relation to organizational culture and performance. It also assesses research needs, especially in resource-constrained environments such as provincial colleges. The assessment focuses on five major topics: (1) e-governance and institutional excellence in higher education, (2) opportunities and challenges in implementation, (3) expanding the role of e-governance in education and public services, (4) digital transformation and institutional culture, and (5) the link between e-governance and institutional performance.

E-Governance and Institutional Excellence in Higher Education. Alshammari et al. (2025) applied the E-GOVQUAL model at Northern Border University in Saudi Arabia and found that digital technologies improved institutional performance through enhanced engagement, user assistance, and usability. Results show digital governance tools minimize service delays and enhance stakeholder satisfaction. A thorough review of e-governance and the Sustainable Development Goals (SDGs) found that digital platforms increase resource planning, transparency, and accountability. Jinah (2021) demonstrated that secure intranet systems improved higher education records administration, reduced administrative costs, and enhanced interdepartmental collaboration.

Opportunities and Challenges in Implementation. E-governance can be challenging to implement, despite its promise of benefits. Institutions encounter challenges such as outdated infrastructure, insufficient funding, and limited digital skills. Sajid et al. (2024) stated that digital systems at Pakistani higher education institutions weren't very useful due to inadequate training and unreliable internet access. According to Kalampukatt et al. (2019), many e-governance efforts fail due to a lack of technical capacity, opposition to change,

and poor planning. According to Tiwari and Tiwari (2020), concerns related to data privacy, access asymmetry, and algorithmic fairness may reduce public trust and system adoption. These studies demonstrate that effective e-governance systems necessitate robust infrastructure, robust ethical safeguards, extensive training, and clear regulatory frameworks to operate successfully and remain sustainable.

Expanding the Role of E-Governance in Education and Public Services. The objectives of e-governance extend beyond administrative efficiency. Agbozo and Asamoah (2019) argue that e-government solutions significantly reduce corruption and promote accountability in public organizations. Ray and Mohanty (2024) discovered that student monitoring applications and digital helplines decreased dropout rates while increasing engagement in rural India. Surizka et al. (2019) stated that Indonesian schools can better implement their e-learning policies when they utilize well-governed digital learning platforms.

Digital Transformation and Institutional Culture. As institutions move toward more integrated digital systems, the roles of leadership and institutional culture become even more vital. Morze et al. (2021) emphasized that building digital competence and fostering collaboration between academic and policy institutions were key to successful transformation in Estonia and Ukraine. Kanjibhai and Gokani (2020) noted that feedback loops, performance tracking, and open communication channels facilitate the enhancement of service delivery and transparency. Alshammari et al. (2025) emphasized that digital adoption must be accompanied by leadership engagement to ensure long-term effectiveness.

The Link Between E-Governance and Institutional Performance. Ibrahim (2021) documented that at the University of Ha'il in Saudi Arabia, more than 80% of institutional performance gains were attributed to e-governance innovations, despite infrastructure gaps. Asiri (2024) also found a strong

relationship between administrative transparency and organizational excellence at Saudi Telecom. Abdelgadir et al. (2022) found that employees' views on the fairness, equality, and usefulness of digital technology have a significant impact on institutional performance. These findings demonstrate that merely upgrading technology is insufficient. When technology is combined with ethical leadership, diverse viewpoints, and sufficient resources, real progress can be achieved.

E-governance requires more than technology to simplify processes, improve communication, and enhance transparency. Competent leadership, skilled personnel, and sound policy frameworks are essential. However, poor internet access, outdated equipment, and inadequate training can render these systems ineffective, forcing users to revert to manual processes. Data privacy concerns and unequal access complicate the ethical implementation of e-governance. Few know how smaller, less resource-rich schools handle these systems, as most success stories come from large, well-funded institutions. Without localized and inclusive solutions, e-governance may remain a conceptual idea rather than a practical change. Any push for digital governance must consider fairness and accountability or risk excluding marginalized communities. Notably, most existing knowledge about the benefits of e-governance derives from large, urban-based universities. Their resources make implementation look easy. What remains unclear is how smaller, under-resourced institutions implement these systems and whether they achieve comparable outcomes in non-metropolitan settings.

Given these gaps, this study addresses the question: What is the role of e-governance in enhancing institutional efficiency at GVC College as perceived by its administrators?

METHODS

Research Design. This study employed a qualitative single-case study design to investigate the impact of e-governance on

institutional efficiency at GVC College. The goal was to explore the lived experiences of administrators implementing e-governance at the institution. Their narratives and insights clarified how digital tools were applied in daily operations. This approach enabled the collection of rich, detailed data by focusing on participants' behaviors, practices, and challenges. The case study highlighted how technology influences school processes in a real-world setting.

Population and Sampling. The study was conducted at a higher education institution in Koronadal City, South Cotabato. The participants were seven school administrators who were currently employed and had been at the institution for more than five years. Purposive (criterion-based) sampling was used to select participants who could speak to institutional processes over time. A five (5) year minimum was set to ensure sustained exposure to pre- and post-e-governance workflows, experience across multiple academic/budget cycles, and sufficient institutional memory to assess efficiency effects beyond initial rollout and training. This method involves the deliberate selection of individuals who meet specific criteria relevant to the study.

Instrumentation. The researcher developed the guide and subsequently reviewed and validated by the research adviser and an expert in research writing for clarity and relevance. No pilot testing was conducted as the instruments were checked for reliability by three experts in research writing. It allowed a smooth flow of conversation while leaving room for follow-up questions. A document review checklist was also used to examine key files, including system logs, memos, and digital reports. These documents provided contextual support to triangulate the interview data. With participants' consent, a voice recorder was used to ensure that no details were missed during the interviews.

Data Collection. After obtaining approval from the school administration, participants were selected through purposive sampling and

provided informed consent following an orientation on their rights and responsibilities. Each interview was scheduled, recorded, and later transcribed. All data were kept secure, and participants' identities were anonymized. Participants were informed of the study's purpose and assured that their privacy would be protected by ethical standards. Adherence to ethical norms involved voluntary participation, obtaining informed consent, and ensuring confidentiality. Member checking was conducted to validate the transcripts. All data were securely stored and used exclusively for academic purposes, with full respect for participants' rights and well-being.

Data Analysis. The goal was to identify recurring patterns and meaningful insights related to e-governance at GVC College. The researcher followed Braun and Clarke's (2006) six-step method, which involves familiarization, coding, theme development, review, definition, and reporting. First, the interviews were transcribed and read several times to become familiar with them. Key phrases and recurring concepts were identified and coded. Similar codes were grouped into initial themes, which reflected shared views on how e-governance helped or challenged school operations. Themes were reviewed and refined to ensure they accurately represented the data. Relevant themes formed the foundation of the results section, illustrating how digital tools impacted daily operations, service delivery, and staff experiences.

Ethical Considerations. Approval was obtained from the school administration before the commencement of data collection. Informed consent was obtained from all participants. They were assured that their personal information would remain confidential. Pseudonyms were assigned to protect participants' identities. Participation was voluntary, and participants could withdraw at any time without penalty. Interview recordings were securely stored and accessible only to the researcher. All data will be permanently deleted upon the conclusion of the study. The entire research process was guided by principles of

respect, honesty, and confidentiality to ensure a safe and ethical study.

RESULTS

In examining the administrators' experiences with e-governance and its impact on institutional efficiency, six themes emerged. Below is a detailed breakdown of these themes:

Theme 1: Digital Transformation as a Driver of Efficiency. Digital transformation enables easier service provision, resource allocation, and communication, ultimately resulting in cost savings and increased efficiency. These are important competencies to maintain in order to remain current and better position oneself for a technological future amid a competitive academic environment.

Participants reported that e-governance had expedited transactions and eliminated manual administrative work. Digital platforms simplified access to staff records, clearance procedures, and document submission. The results showed that technological improvements in student registration, record-keeping, and communication have enhanced both speed and accuracy. Staff can now devote more time to preparing for and supporting instruction because of this increased efficiency. This illustrates that digital technology in schools enhances everyday operations beyond mere infrastructural improvements. To further emphasize this point, participants shared accounts that demonstrated how digital transformation has a tangible impact on administrative processes.

Participant 1 noted, "What used to take hours or even days now gets done in minutes," while P4 described a significant change in enrollment processing: "Before, enrollment took several days with long queues. Now, with our digital system, the entire process takes less than a day." Similarly, Participant 6 reinforced these observations by emphasizing, "The system helps us avoid repetitive tasks. We no longer need to write and retype reports for every student concern manually."

Participants overwhelmingly agreed that digital transformation enhances administrative duties and operational efficiency. Their examples demonstrated how digital technology has decreased processing times, reduced reliance on manual labor, and accelerated enrollment and reporting procedures. Personal accounts reflected a shift toward faster, more accurate, and more streamlined workflows. These findings illustrate how technology supports and improves educational administration.

Theme 2: Enhanced Communication and Coordination. Digital tools facilitated more rapid correspondence, streamlined documentation, and improved interdepartmental scheduling. Consistent with these findings, participants shared specific examples that illustrated these benefits in practice.

Participant 4 noted, "Communication has greatly improved, which helps reduce misunderstandings and speeds up collaboration," while Participant 5 added, "We now coordinate through shared platforms, online meetings, and digital memos." Similarly, Participant 1 explained, "There's less need to route documents. Approvals and memos physically are now managed through shared drives and emails," and Participant 6 emphasized the impact on students, stating, "We respond to students faster through online forms and email." This makes the school look more responsive.

These responses demonstrate that e-governance enhances operational efficiency, promotes organizational transparency, and strengthens institutional credibility.

Theme 3: Barriers to Implementation and Unequal Access. Institutional barriers include outdated infrastructure, limited connectivity, financial constraints, and a shortage of technical personnel. The second common barrier to use implementation is resistance to change due to fear of the new technology or disruption of existing practices. Ambiguous policies, de facto guidelines, or ineffective training are additional barriers to implementation. Similar to this investigation,

participants in this study reported issues with their institutional contexts.

Participant 2 observed, "The staff's skills vary, many don't know much about technology," while Participant 5 emphasized, "Some students without reliable internet had trouble meeting online submission deadlines." Similarly, Participant 6 cautioned, "We can't assume everyone has equal access or skills. Some offices still rely on paper because they're more comfortable that way," and Participant 7 supports this concern by stating, "The system assumes equal access to devices and connectivity, which isn't true."

These remarks stress persistent concerns related to diversity, accessibility, and digital preparedness. The findings emphasized the need for enhanced institutional capacity and infrastructural support to facilitate an equitable digital transformation for all stakeholders.

Theme 4: Training and Support as Catalysts for Adoption. Training and support were essential for the implementation of e-governance. Operational efficiency was enhanced with digital platforms; however, performance ultimately depends on the skill and confidence of the users. Additional classes and ongoing technical support are needed to address system changes and user issues. In the absence of sufficient training, some staff reverted to manual processes, while others returned to manual practices, thereby limiting the positive impact of digital conversion. This highlights that technological change requires the continued development of human capacity and usable support networks for effective implementation to be sustained.

Participant 4 shared, "We received several hands-on training workshops. Overall, the training was adequate." However, P1 remarked, "More follow-up sessions would've been beneficial, especially for those unfamiliar with the tools." Similarly, P6 observed, "Some need on-the-job training. A manual or one session isn't sufficient; real mentoring is essential." Participant 7 added, "After the initial session,

there was no refresher. Some staff had to figure things out independently."

These responses demonstrate that the first training was beneficial, but the absence of continued support and refresher sessions rendered it less valuable in the long term. To maintain user trust and interest in the system, digital transformation necessitates early capacity development, ongoing coaching, and structured support.

Theme 5: Human Error and System Reliability. Technology, as well as human accuracy and discipline, contributes to system reliability. The findings suggest that incorrect data input or inadequate system standards may compromise operational efficiency and data integrity. To be stable, a system must be constantly available, have solid data management, and be highly secure. For e-governance to be effective, the system must be built and educated in such a way that it is technically sound, and individuals do not make errors. Although the system was generally perceived as reliable, the challenges it faced were primarily the result of human behavior.

Participant 2 observed, "Some program heads don't input student data properly, which causes clearance issues." Participant 4 added, "Some tasks now involve more digital steps. If procedures aren't followed, it slows everyone down." Similarly, Participant 6 emphasized, "It's not the system, it's user error. If data isn't updated, the system becomes unreliable." Participant 7 concluded, "The system is only as good as its users. We need accountability, not just automation."

These responses emphasized the importance of training, user discipline, and data accuracy to ensure system effectiveness. Ultimately, the reliability of e-governance depends not only on technical safeguards but also on cultivating a culture of accountability among users. Continuous monitoring, refresher training, and clear policies can help minimize errors and reinforce trust in the system.

Theme 6: Vision for Future Growth and Integration. This theme outlines plans to scale and integrate digital systems across the tertiary institution in Koronadal City. This plan demonstrates the school's commitment to strengthening its digital infrastructure and improving service delivery. In contrast, most participants in the present study expressed optimism about the expansion of e-governance, with many advocating for the creation of a centralized platform and the establishment of stronger institutional policies.

Participant 2 stressed, "We still need to unify all systems, grades, inventory, and document tracking, for efficient transactions." Similarly, Participant 3 envisioned, "A single platform covering everything from student records to HR would reduce confusion from using multiple apps." Participant 6 added a usability concern, noting, "Systems need to be more mobile-friendly. Many use phones, but the interface isn't always user-friendly." Furthermore, Participant 7 recommended, "We need policies that make digital usage mandatory across departments, so it becomes part of our culture."

Participants' responses conveyed optimism regarding the adoption of e-governance, but they also demonstrate a strong need for improved integration, mobile optimization, and policy improvement. There was a broad consensus that a centralized, user-friendly platform grounded in institutional policy is essential for fostering a coherent digital culture and supporting long-term institutional development.

These developments are expected to yield improvements in efficiency, communication, and responsiveness. However, digital access gaps, human error, and limited training still present challenges. Participants envisioned further integration, enhanced mobile accessibility, and policy-driven support as the next steps.

DISCUSSION

This study was designed to fill a significant gap in the research on applying e-governance in

higher education. Few studies demonstrate how digital systems can serve large, well-funded urban universities, and there is even less data on their application in smaller provincial institutions, particularly in smaller cities such as Koronadal City in the Philippines. Larger research typically does not consider issues such as unstable internet connections, inadequate training, and restricted accessibility in these contexts. This renders it challenging to gain genuine insight into the applications and ramifications of e-governance from the standpoint of on-the-ground administrators.

Such data are valuable for developing more inclusive and lasting digital policies for schools outside the urban areas. This broader policy relevance is mirrored in the lived experiences of administrators, whose accounts illustrate how digital systems translate into tangible operational improvements. In practice, these improvements were most evident in everyday administrative tasks, where the benefits of digitization became clear to those directly managing school operations. Participants reported that registration was simpler, documentation was improved, and redundant tasks were minimized. Researchers at Northern Border University (Alshammari et al., 2025) found that digital technology enabled quicker and more responsive administrative processes. The findings indicate that smaller institutions, even with limited digital infrastructure, may achieve greater cost-efficiency. The outcome is unique in the literature, which often concentrates on larger, wealthier populations.

Enhanced communication emerged as another significant theme. Digital technology facilitated faster interdepartmental communication and more prompt responses, which aligns with Morze et al. (2021), who stress the crucial role of digital skills and infrastructure in ensuring smooth communication. Nevertheless, the findings are not entirely positive. This technology appears to highlight digital inequities. Due to skill gaps or unpredictable internet connections, several administrators were unable to utilize the e-governance system.

This finding echo concerns raised by Sajid et al. (2024) and Azionya and Nhedzi (2021), who argue that weak support systems in e-governance can deepen inequalities within institutions.

The human component was critical for the system to function. Technical systems operated effectively; however, human error, such as inputting incorrect data or violating digital regulations, caused the majority of issues. This supports Hojjati Emami's (2019) conclusion that human reliability remains a critical risk in digital systems. Unlike studies that frame e-governance as a purely technical innovation, the study findings reinforce that its effectiveness is deeply social, reliant on user accountability, continuous training, and ingrained practices.

The study shows that training was inadequate, and the system was not utilized consistently. Although early onboarding classes were available, mentoring was not always accessible; consequently, many employees had to learn through peer inquiry or hands-on training. Yulin and Danso (2025) found that the absence of structured capacity development could potentially hinder or exacerbate digital innovation. Some participants were resistant to change due to their dislike of the new technology and concerns about its potential risks. This finding supports the socio-technical principle that systems must evolve in tandem with users' skills.

This case study adds nuance to the digital transformation discourse by foregrounding the experiences of administrators in a provincial college. Unlike the dominant narratives in e-governance literature that prioritize efficiency metrics, this study reveals that successful implementation also depends on fostering inclusive digital cultures. It supports Ibrahim (2021) and Asiri (2024) in asserting that infrastructure and user engagement must co-evolve; however, it goes further by illustrating how institutional context, including resource constraints and policy gaps, shapes digital outcomes.

Students, staff, faculty, and other relevant stakeholders should be included in future research to obtain a comprehensive understanding of how e-governance operates within the institution. Despite sharing numerous participant stories, obtaining system-generated performance data is crucial for demonstrating any efficiency improvements. Using a mix of methods, such as qualitative interviews and quantitative research, may provide more information. Because this is a single-case study of one tertiary institution in Koronadal City, the findings are context-specific and not statistically generalizable; multi-site comparisons are recommended to improve external validity and transferability.

Theoretically, this study affirms and extends socio-technical systems theory by demonstrating that digital governance interventions must be context-sensitive and people-centered. It highlights the interdependence between digital technology, institutional culture, and user readiness. Practically, the findings imply that digital transformation policies should be embedded rather than additive. Institutions must prioritize mobile-responsive platforms, continuous training, and mandatory digital adoption across departments.

The impact varies from person to person and circumstance to circumstance. Technology enhances efficiency when individuals utilize it, systems provide adequate support, and leadership actively promotes its use. This research found that e-governance isn't a quick remedy. Institutions must commit to justice, inclusivity, and capacity-building on a long-term basis.

Based on the findings, this study recommends building an integrated digital ecosystem with clear rules and strong leaders that promote responsibility and innovation. Adaptive technical support and continuous capacity development enhance users' competencies and reduce error frequency in practical settings. Moreover, digital equity, achieved through improved infrastructure, mobile-compatible

platforms, and access to communal resources, ensures inclusion for all. Thus, future research should involve students, instructors, and information technology (IT) staff, utilizing system-generated data to enhance efficiency and inform evidence-based digital planning.

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