

# Implementation, Challenges, and Customer Satisfaction of Digitalizing Local Civil Registry Office in the Three Cities (GENKORKID) of Region XII

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## Abstract

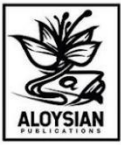
This study examined the implementation of digitalization in Local Civil Registry Offices (LCROs) in General Santos City, Koronadal City, and Kidapawan City (GenKorKid) in Region XII. Guided by Policy Implementation Theory, SERVQUAL Model, Digital Era Governance, and the Technology Acceptance Model, the study assessed the extent of digitalization, customer satisfaction, challenges encountered, and differences among cities. A descriptive-correlational design was used involving LCRO employees and customers. Data were gathered through a validated researcher-made questionnaire and analyzed using descriptive and inferential statistics.

Findings showed that digitalization in the three LCROs was moderately implemented, indicating that digital transformation remains in a transitional stage. Technology adoption received the highest rating, while process automation obtained the lowest, reflecting limited system integration and operational efficiency. Despite this, customer satisfaction was rated very satisfied, particularly in timeliness and service quality.

The major challenge identified was the redundancy of work processes, specifically the re-encoding of civil registry entries into the PhilCRIS system. Although documents had already been encoded by stakeholders such as birthing institutions, LCRO personnel still manually re-entered the same information, increasing workload, costs, manpower needs, and risks of human error and data inconsistencies. Other challenges included inadequate ICT infrastructure, limited technical support, data security concerns, insufficient digital literacy, and budget constraints.

The study concludes that system upgrading, stronger system integration, workforce development, infrastructure investment, and policy support are necessary to achieve efficient and sustainable digital transformation in LCROs.

**Keywords:** Digitalization, Local Civil Registry Offices (LCROs), Challenges, Customer Satisfaction, Region XII



## INTRODUCTION

The global shift toward digital governance has transformed public institutions, emphasizing modernization in essential services such as civil registration. Digital technology is widely recognized as a key driver of efficiency, transparency, and inclusivity in public service delivery. In particular, the digitalization of Local Civil Registry Offices (LCROs) offers strong potential to improve access to accurate civil documentation essential for legal identity, social protection, and civic participation.

Internationally, digital governance has shown clear benefits. The United Nations E-Government Survey (2020) reported that digital platforms improve transparency, reduce corruption, and increase citizen satisfaction. Countries such as Estonia and the United Kingdom demonstrate advanced digital government systems through initiatives like Estonia's e-Residency and the UK Government Digital Service, proving the feasibility of end-to-end digital public services (Government Digital Service, 2021). The World Bank (2019) further emphasized that digitalization of Civil Registration and Vital Statistics (CRVS) improves data accuracy, accessibility, and administrative efficiency.

In the Philippines, digital transformation has been promoted through the Philippine Statistics Authority's Philippine Identification System (PhilSys), online civil registration services, and the Department of Information and Communications Technology's (DICT) digital integration programs for local government units (LGUs). However, despite these efforts and the Local Government Code of 1991, implementation remains uneven due to limited funding, weak infrastructure, and insufficient technical capacity (DILG, 2022).

In Region XII, many Local Civil Registry Offices still operate using manual, paper-based systems that are inefficient, time-consuming, and prone to errors and data loss. Poor internet connectivity, limited funding, and shortage of trained personnel further hinder digital adoption. This reveals a persistent gap between national digitalization policies and local implementation realities.

Despite ongoing reforms, empirical studies on LCRO digital transformation—particularly in Region XII—remain limited. This study addresses this gap by examining the extent of



digitalization, identifying challenges, assessing customer satisfaction, and proposing policy recommendations to strengthen evidence-based governance in civil registration services.

## REVIEW OF RELATED LITERATURE

### Digitalization of Government Operations

Digitalization has become a key strategy for improving government efficiency and public service delivery. Studies showed that digital transformation enhances transparency, accountability, responsiveness, and operational efficiency in public institutions (Ylinen, 2021).

Research also highlighted the broad applications of digital governance. In Romania, digital platforms improved public access to cultural resources and strengthened citizen engagement (Csesznek et al., 2024). In the Philippines, digitization initiatives improved transaction efficiency and user satisfaction. Alindajao et al. (2022) found that digital licensing systems in Quezon City enhanced convenience, reliability, and time efficiency, while De Castro and De Castro (2022) emphasized the importance of ICT programs, online systems, and employee training in strengthening local e-governance. However, weak collaboration, inadequate regulations, and poor system integration continued to limit implementation.

System integration was identified as essential in improving government operations. Integrated digital systems enhance coordination, data sharing, and decision-making while reducing duplication of records and processing delays. In LCROs, integration enables faster access to civil records across departments. Nevertheless, interoperability issues and incompatible systems remain major barriers to effective implementation.

Customer satisfaction is closely linked to digital service quality. Sesar et al. (2021) emphasized that convenience and efficiency strongly influence user satisfaction. Bernhard et al. (2018) reported that higher levels of digitalization increased citizen satisfaction in Swedish municipalities. Similar findings in Nepal and Indonesia showed generally positive responses toward online government services (Phuyal, 2024; Fauzan, 2024). Studies also revealed that



automation and integrated digital tools improve efficiency, reduce errors, and support faster service delivery (Golinelli et al., 2020; Tiach & Marghich, 2023).

### **Challenges in the Implementation of Digitalization**

Despite its advantages, digitalization faces major challenges, particularly in local government offices. One significant issue is poor system integration. Tapangan (2021) explained that systems such as the Philippine Civil Registry Information System (PhilCRIS) remain underutilized because they are poorly connected with other operational platforms. Consequently, LCRO personnel still manually re-encode civil registry data from hospitals and other stakeholders, resulting in duplicated work, delays, and increased risks of errors.

Data management and cybersecurity also remain major concerns. Studies emphasized the need for centralized databases, secure IT infrastructure, and strict data protection measures to safeguard sensitive civil registry information (UNHCR Philippines; Okoth, 2023). Weak cybersecurity systems increase vulnerability to data breaches, unauthorized access, and data loss.

Human resource limitations further hinder digital transformation. Sonhaji et al. (2024) observed that many public institutions lack skilled personnel, innovation, and organizational readiness for digital adoption. These problems are compounded by rigid bureaucratic structures, weak political support, and inconsistent regulations.

Financial constraints also slow digitalization initiatives. Logrillo (1997) highlighted the high costs of digital infrastructure, software, and maintenance in civil registry offices. Similar studies found that outdated IT systems and limited government budgets make digital reforms difficult, particularly in developing countries (de Mello & Ter-Minassian, 2020; Elsafty, 2023). These findings emphasize the need for strategic investments and sustainable funding.



## Stakeholder Concerns on Computerized Services

Stakeholder concerns significantly influence the success of digitalization initiatives. Lindgren (2013) identified user resistance as a major challenge during transitions to computerized operations. Insufficient training and support further intensify resistance.

Poor interoperability and fragmented systems also remain persistent concerns. Tapangan (2021), UNESCAP (2021), and the World Bank (2020) emphasized that disconnected ICT systems reduce efficiency, increase workloads, and weaken public trust in digital services. Heeks (2003) described this issue as the “Design-Reality Gap,” where digital systems fail to align with actual organizational processes.

Limited online accessibility also affects public satisfaction. Many local government portals provide only basic information instead of fully transactional services. Studies found that weak digital design, limited service integration, and unequal ICT access contribute to digital exclusion, particularly among marginalized groups (Tagayan & Lim, 2025; Billones, 2026). Data privacy and cybersecurity concerns were also frequently highlighted, emphasizing the need for strong encryption, access management, and disaster recovery systems to protect sensitive information (Okoth, 2023; Klymenko et al., 2023; Gupta et al., 2021).

Overall, literature suggests that successful digitalization requires system upgrading, effective technology adoption, stakeholder engagement, sustainable funding, system interoperability, and continuous capacity building to ensure efficient, secure, and inclusive public services in LCROs.

## Methodology

### Research Design

This study employed a descriptive-correlational research design to determine the level of digitalization implementation in the GenKorKid cities of Region XII. Descriptive research was used to describe the current status of variables such as digitalization implementation, customer satisfaction, and challenges encountered (Shinija, 2024). Correlational research was applied to



determine the relationship between digitalization implementation and customer satisfaction without manipulating the variables (Creswell & Creswell, 2017; Fraenkel & Wallen, 2009).

### **Locale and Respondents of the Study**

The study was conducted in the LCROs of GenKorKid cities in Region XII (SOCCSKSARGEN).

Respondents included LCRO employees and customers from the three cities. Employee respondents consisted of registration officers, data processors, frontline personnel, and administrative staff directly involved in digitalized operations. Total enumeration was used in this study. Customer respondents included regular and walk-in clients who availed of digital services in the LCROs.

### **Sampling Technique**

Complete enumeration was applied to employee respondents to ensure representation of all personnel involved in digitalized service delivery. According to Sileyew (2019), this method is appropriate when the population is small and accessible. For customer respondents, only individuals who experienced digitalized services were included to ensure relevance to the study.

### **Data Gathering Instrument**

Data were collected using a researcher-made structured questionnaire designed to assess digitalization implementation and customer satisfaction in LCROs. The instrument used a four-point Likert scale to measure respondents' perceptions. Joshi et al. (2015) noted that Likert scales effectively measure attitudes and perceptions, while Garland (1991) explained that removing the neutral option reduces central tendency bias.



The questionnaire consisted of two sections. The first measured digitalization implementation through indicators such as adoption of digital technology, system integration, process automation, and employee digital competency. The second assessed customer satisfaction in terms of accessibility, timeliness, service quality, and customer support efficiency.

### **Validation and Reliability of the Instrument**

The questionnaire underwent expert validation to ensure clarity, relevance, and accuracy. Validators included City and Municipal Civil Registrars, officials from the Philippine Statistics Authority and the Department of Information and Communications Technology, and IT personnel from LCRO-General Santos City.

A pilot test was conducted to identify unclear items and ensure response consistency. Reliability testing using Cronbach's Alpha through SPSS showed high internal consistency, with coefficients of 0.9503 for employees and 0.9781 for customers, indicating that the instrument was highly reliable.

### **Data Gathering Procedure and Statistical Treatment**

The researcher secured approval from the mayors of General Santos City, Koronadal City, and Kidapawan City before conducting the study. Upon approval, consent forms and survey questionnaires were distributed through electronic and paper-based formats. Retrieved data were tabulated and submitted to a statistician for analysis.

Descriptive statistics such as mean and standard deviation were used to determine the level of digitalization implementation, customer satisfaction, and challenges encountered. Frequency counts and ranking identified common stakeholder concerns. Non-parametric tests, including the Kruskal-Wallis test and Dwass-Steel-Critchlow-Fligner pairwise comparison, were employed to determine significant relationships among variables across the three cities. Findings served as the basis for policy recommendations to improve and sustain digitalization in LCROs.

## Results and Discussion

This chapter presents the results and findings of the study, focusing on the implementation, challenges, and customer satisfaction associated with the digitalization of Local Civil Registry Offices (LCROs) in the three cities of Region XII (GenKorKid).

### Implementation of Digitalization

The findings reveal that the overall level of digitalization across the three LCROs is moderately implemented, with a mean score of 2.89. This indicates that while digital transformation is underway, it remains in a transitional stage rather than being fully optimized. Among the dimensions assessed, adoption of digital technologies recorded the highest mean (3.02), suggesting that infrastructure and tools have been introduced. However, automation of processes received the lowest mean (2.65), highlighting it as the primary bottleneck.

This pattern suggests that although LCROs have moved beyond purely manual systems, they have yet to achieve seamless integration and efficiency. The results reflect a broader trend in which technology acquisition progresses faster than organizational adaptation and workforce readiness. Digitalization is not merely about acquiring hardware; it also requires effective system integration and skilled personnel (Alindajao et al., 2022). Impacts of Digitalization of Business Permits and Licenses The findings emphasize the need for improved automated workflows and enhanced employee training to achieve full implementation.

### Customer Satisfaction

Despite only moderate implementation, customer satisfaction with LCRO services is notably high, with an overall rating of very satisfied ( $M = 3.30$ ). The highest-rated dimensions are timeliness ( $M = 3.34$ ) and perceived quality of service ( $M = 3.34$ ), indicating that digitalization has improved processing speed and reliability. Customer support efficiency also received a very satisfied rating ( $M = 3.30$ ), suggesting that assistance systems function effectively.



However, accessibility received the lowest rating ( $M = 3.24$ ), categorized as “satisfied.” This indicates that while services are generally effective, some users experience challenges in accessing or navigating digital platforms, likely due to differences in digital literacy or infrastructure. Overall, the results show that LCROs perform well in delivering timely and reliable services, even if digital systems are not yet fully optimized.

### **Challenges in Digitalization**

The study identified several challenges affecting the digitalization of Local Civil Registry Offices (LCROs) in GenKorKid Cities, particularly in technological issues, data management, change management, and cost and budgeting. The most significant challenge was the re-encoding of civil registry document entries in the PhilCRIS, a system provided by the Philippine Statistics Authority to LCROs. Although civil registry documents had already been prepared by stakeholders such as birthing institutions, LCRO employees were still required to manually re-encode the same information into the database of the LCROs once the documents were submitted to these offices.” This redundancy increased workload, consumed additional time and financial resources, required more workforce, and heightened the risk of human error and data inconsistencies. The findings support Tapangan (2021), who noted that poor system integration reduced efficiency and slowed workflow productivity. Another challenge underscores the importance of inter-agency coordination.

Other technological challenges included inadequate computer units, printers, scanners, internet connectivity, and ICT infrastructure, all of which limited effective digital operations. In data management, concerns centered on data security, privacy, skilled IT personnel, and secure server infrastructure. Change management issues involved insufficient technical support, weak inter-agency collaboration, and limited digital literacy and training. Financial constraints, including inadequate funding, cloud storage, and secure online platforms, further hindered sustainable digital transformation and efficient public service delivery in LCROs.



### **Relationship Between Digitalization and Customer Satisfaction**

The results show no significant relationship between digitalization implementation and customer satisfaction, as all p-values exceed 0.05. Correlation coefficients indicate weak negative relationships, suggesting that higher levels of digitalization do not necessarily lead to increased satisfaction. This implies that customer satisfaction may be influenced more by other factors, such as service efficiency, staff interaction, and organizational processes, rather than digitalization alone. The findings highlight the importance of user-centered approaches to ensure that digital systems effectively meet customer needs.

### **Differences in Implementation Across Cities**

Significant differences were found among the three cities in all dimensions of digitalization, including technology adoption, system integration, automation, employee competency, and overall implementation. These differences reflect variations in resources, infrastructure, and institutional capacity.

Post-hoc analysis shows that Koronadal City consistently leads in all aspects of digitalization, including adoption ( $M = 3.40$ ), system integration ( $M = 3.35$ ), automation ( $M = 3.02$ ), employee competency ( $M = 3.21$ ), and overall implementation ( $M = 3.24$ ). General Santos City ranks in the middle across most indicators, showing moderate progress. Kidapawan City records the lowest scores, indicating slower advancement in digital transformation.

These disparities suggest uneven development among LCROs, influenced by differences in funding, administrative priorities, and workforce capability. The findings emphasize the need for equitable resource distribution, capacity-building, and policy support to ensure consistent digitalization across all offices.



### **Customer Satisfaction Across Cities**

Despite differences in implementation, there are no significant differences in customer satisfaction among the three cities. Mean scores range from 3.05 (General Santos) to 3.53 (Kidapawan), but all are statistically comparable. This indicates that customers across all LCROs experience similar levels of satisfaction, suggesting that digitalization has established a baseline level of service quality.

The absence of significant variation implies that satisfaction is relatively stable and not a key differentiator among offices. Therefore, future efforts should focus more on improving system integration, automation, and employee competency rather than solely increasing satisfaction levels.

### **Overall Interpretation**

The findings indicate that digitalization in the LCROs of GenKorKid Cities is moderately implemented and remains in a transitional stage. While digital technologies have been adopted, automation and system integration remain limited, with redundancy in re-encoding civil registry data emerging as the major challenge. This duplication increases workload, costs, manpower needs, and risks of errors. Despite these limitations, customer satisfaction remains high, suggesting that service efficiency and staff support continue to meet public expectations. Significant differences among cities also reveal unequal levels of resources, infrastructure, and institutional capacity affecting digital transformation.

### **Conclusions**

The study concludes that the digitalization of Local Civil Registry Offices (LCROs) in the GenKorKid Cities of Region XII is progressing but remains at a moderate and transitional level of implementation. While digital technologies and systems have already been introduced, full automation, system integration, and operational efficiency have not yet been fully achieved. The findings indicate that the adoption of technology alone is insufficient to ensure effective



digital transformation, as organizational readiness, employee competency, infrastructure, and institutional support remain critical factors in successful implementation.

One of the most significant conclusions of the study is that redundancy in work processes, particularly the re-encoding of civil registry document entries into the PhilCRIS system, is the primary challenge affecting operational efficiency. Although stakeholders such as hospitals and birthing institutions already encode civil registry information, LCRO personnel are still required to manually re-enter the same data into their local databases upon submission of documents. This duplication of tasks increases workload, consumes additional time, financial resources, and manpower, and exposes the system to a higher risk of human error and data inconsistencies. The persistence of manual re-encoding reflects weak system integration and limited interoperability among agencies involved in civil registration services.

The study also concludes that technological, financial, and organizational limitations continue to hinder digital transformation. Inadequate computer units, printers, scanners, internet connectivity, cloud storage, and ICT infrastructure limit the efficiency of digital operations. Likewise, concerns regarding data security, privacy protection, technical expertise, and cybersecurity highlight the need for stronger data management systems and skilled personnel. Challenges in change management, including insufficient technical support, limited digital literacy, and weak inter-agency collaboration, further demonstrate that digitalization requires continuous capacity-building and institutional coordination.

Despite these limitations, customer satisfaction across the three cities remains high. This suggests that LCROs are still capable of delivering timely and reliable public services through employee commitment and effective customer support systems. However, the absence of a significant relationship between digitalization and customer satisfaction implies that public satisfaction depends not only on technological advancement but also on service quality, responsiveness, and human interaction.

Finally, the study concludes that digitalization efforts among LCROs are uneven. Koronadal City demonstrates the highest level of implementation, while General Santos City and Kidapawan City show moderate and lower levels of progress, respectively. These disparities



indicate differences in funding, infrastructure, administrative priorities, and workforce capability. Therefore, achieving sustainable and inclusive digital transformation in LCROs requires stronger policy support, equitable resource allocation, enhanced automation, improved inter-agency system integration, and continuous workforce development.

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