

Digitalization of Local Government Unit: Towards a More Responsive Service Delivery Policy of Mabalacat City

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The Asian Conference on the Social Sciences 2026
Official Conference Proceedings

Abstract

This study was conducted to assess the extent of digitalization in Mabalacat City's service delivery by examining LGU preparedness, LGU effectiveness, LGU employee training, and citizen satisfaction. It further sought to determine whether these perceived levels differ significantly from those in previous studies, examine variations in employee preparedness and effectiveness by training level, and analyze the predictive influence of LGU preparedness and effectiveness on citizen satisfaction. Furthermore, the study aimed to formulate evidence-based policy recommendations to strengthen the digitalization of local government services, promoting more responsive planning and development of public service delivery in Mabalacat City. Data gathering through a survey was carried out from December 5, 2025, until January 5, 2026. The respondents were LGU employees working under the City Planning and Development Office of the local government unit of Mabalacat City, and Citizens who are residents engaged with the locational clearance process through manual or digital channels. The data gathered were tested using a one-sample t-test, regression analysis, and an ANOVA to determine possible significance among performance indicators. The results of this study suggested that data and system preparedness, under the variables of LGU preparedness, LGU Effectiveness, LGU Employee training, and Citizen satisfaction, were the significant variables that influenced the digitalization of the local government unit system towards a more responsive service delivery policy of Mabalacat City.

Keywords: LGU, preparedness, effectiveness, training, citizen satisfaction, digitalization, policy

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Introduction

Many studies at the global, regional, and national levels show that digital governance is important for improving public service delivery, but there are still some key gaps in the literature. Most research finds that LGU preparedness depends on ICT infrastructure, digital policies, data systems, and organizational preparedness (ADB, 2022; OECD, 2021; UN DESA, 2022). However, these studies usually look at preparedness at broad administrative or national levels. There is little empirical evidence that focuses on preparedness within City Planning and Development Offices (CPDOs), which have more complex digital needs such as spatial data systems, GIS-based workflows, and planning databases, compared to typical frontline offices.

Second, while research shows that digitalization helps LGUs work better by improving coordination, transparency, and efficiency (Kettunen & Kallio, 2020), there is little research on how this effectiveness appears in planning and development services. This is especially true for tasks like preparing and implementing CLUP/CDP, ensuring zoning compliance, and running online permitting systems. Current studies do not clearly show whether or how digital preparedness directly improves effectiveness in these technical and regulatory areas.

Thirdly, it is widely accepted that getting employees the right training is absolutely key to pulling off a digital transformation (Bousdekis & Cardinali, 2021). However, it's surprising how few studies actually look at training as a moderator—something that can either boost or dampen the connection between being prepared and being effective. Researchers usually just treat training as an initial step or a resource rather than a crucial factor that changes how well digital efforts translate into real performance results. fair amount about how citizens feel about standard service delivery, but there is a real gap when it comes to understanding how people evaluate digitalized planning and development services. These services are much more technical than typical local government transactions—they have longer, more complicated workflows and are held to higher regulatory standards, which means we need more research on how citizens experience and judge them.

Finally, when examining the situation in the Philippines, a significant empirical gap becomes evident: no existing study has successfully integrated the four proposed variables—LGU Preparedness, LGU Effectiveness, Employee Training, and Citizen Satisfaction—within the practical setting of the Planning and Development Office's (PDO) digital transformation efforts. This omission is especially critical for Mabalacat City, where planning services are currently transitioning onto digital platforms but have yet to be rigorously evaluated concerning organizational preparedness, operational success, or overall citizen outcomes. Consequently, the current study is designed to directly address these omissions. By providing a focused, empirical assessment of the digital transformation within the Mabalacat City Planning and Development Office, this research aims to contribute original evidence that is sorely needed by both the local governance and digital service delivery literature.

Methodology

This study employed a quantitative descriptive–inferential research design to describe the extent of digitalization in planning and development services, test differences from a neutral benchmark, examine group differences based on training level, and determine the predictive influence of perceived LGU preparedness and effectiveness on citizen satisfaction. Research must be aligned with specific research questions and objectives (Garcia & Santos, 2024).

A quantitative method is suitable since the study aims to measure observable trends, numerical changes, and statistically verifiable relationships among the variables: LGU Preparedness, LGU Effectiveness, LGU Employee Training, and Citizen Satisfaction. This is done using validated indicators and structured survey instruments. The descriptive part of the design aimed to assess the current levels of digitalization, focusing on preparedness, effectiveness, employee training, and satisfaction, in line with the first problem statement's requirements. The descriptive design is widely recognized as effective for measuring existing perceptions, behaviors, and conditions (Creswell & Creswell, 2018). The correlational part was used to examine the effects of preparedness and effectiveness on citizen satisfaction.

Rationale

A quantitative approach was appropriate as the study utilized structured Likert-scale questionnaires to transform respondents' perceptions into measurable numerical data suitable for statistical analysis. The descriptive component enabled the systematic presentation of the current status and variability of digitalization-related dimensions using means and standard deviations, which is consistent with studies assessing public sector performance and service delivery outcomes (Bryman, 2016; Creswell & Creswell, 2018).

The inferential component of the design was employed to test hypotheses and examine relationships among variables using one-sample t-tests, analysis of variance (ANOVA), and multiple linear regression analysis. One-sample t-tests determined whether the observed mean ratings significantly differed from a neutral benchmark, while ANOVA examined differences in preparedness and effectiveness across levels of employee training. Multiple linear regression analysis assessed the predictive influence of perceived LGU preparedness and effectiveness on citizen satisfaction. The integration of descriptive and inferential procedures ensured methodological rigor and supported evidence-based conclusions relevant to digital governance and policy formulation in local government settings (Field, 2018; Hayes, 2018).

Research Participants

To capture a holistic view of both digitalized and hybrid (manual–digital) service models, the researcher engaged two distinct respondent groups: 40 LGU employees and 400 citizens.

The researcher was able to obtain 400 respondents out of 5043 population size, with 42 respondents better than the calculated sample size of 358 based on Raosoft Calculator.

A total enumeration, a total of 40 respondents, was implemented for the LGU staff to ensure every individual involved in planning and development service delivery was represented. This approach is particularly effective when the population size allows for full participation and when the research requires detailed data to evaluate organizational conditions, such as preparedness, effectiveness, and employee training (Taherdoost, 2020). LGU employees were selected because they act as the primary implementers of planning and development services. Their unique vantage point allows for an informed assessment of organizational preparedness, operational effectiveness, and the quality of employee training. For the citizen group, criterion-based purposive sampling was used to specifically select individuals who possessed firsthand experience with the LGU's planning and development services, whether those transactions were manual, digital, or hybrid. Records of transactions related to planning

services, especially for locational clearance applications, are frequently scattered between manual and digital systems.

By involving both LGU employees and citizens, the study successfully connects internal organizational conditions with external service outcomes, which enhances the overall validity of the research. This dual-respondent strategy aligns with current governance research, which advocates for combining employee and citizen data to provide a clearer explanation of public service performance and responsiveness within digital government frameworks (OECD 2023; United Nations 2022).

This study was centered in Mabalacat City, specifically examining the Planning and Development Service Delivery under the City Planning and Development Office within the Local Government Unit (LGU) and DICT, 2023. To capture a holistic view of both digitalized and hybrid (manual–digital) service models, the research engaged two distinct respondent groups: LGU employees and citizens.

Research Instrument

This study used a specifically designed, quantitative method to measure Mabalacat City's integration of digital technology into its planning and development operations. The method involved two separate questionnaires. The first, designated as Set A, was aimed at local government employees involved in planning and development. The second, Set B, was created for citizens who utilize the city's digital services. To strengthen content validity, reduce measurement errors, and ensure that constructs are assessed by respondents most capable of evaluating them, a dual-instrument structure is being used.

Both questionnaires were thoroughly developed, structured, and contained questions directly linked to the research's central inquiries, theoretical framework, and the precise definitions of the concepts under investigation, all of which were based on previous research in the field.

Validation of Research Instrument

The validation of the instruments was conducted by a panel of experts comprising a specialist in e-governance digital transformation, an academic researcher on quantitative social research, and a practitioner from a local government involved in planning and development.

Reliability Test

To evaluate the dependability of the responses, a pilot test was carried out involving at least 20 participants for LGU Employees and 30 for Citizen respondents, who were excluded from the primary research. The reliability of the measurement was assessed through the Cronbach's Alpha (α) coefficient.

Rating Scale

With specific reference to the processing of locational clearance under a hybrid (manual and digital) service environment, the study utilized a five-point Likert-type rating scale to measure the perceptions of both LGU employee respondents and citizen respondents regarding the digitalization of planning and development service delivery in Mabalacat City.

According to DeVellis (2017) and Field (2018), due to their reliability, ease of interpretation, and suitability for parametric statistical analysis when scale assumptions are met, Likert scales are widely used in quantitative research to capture attitudes, perceptions, and levels of agreement, particularly in public administration, e-governance, and service quality studies.

Data Analysis

After the data collection process, all completed questionnaires from both LGU employees and citizen respondents were coded and organized for analysis using MS Excel. Prior to conducting the statistical analysis, the data were cleaned, verified, and screened to ensure accuracy, reliability, and validity. This process involved checking for missing values, encoding errors, inconsistencies, and outliers to ensure that the dataset was suitable for further quantitative analysis.

The analysis of the data was based on both descriptive and inferential statistical techniques, consistent with the quantitative, descriptive–inferential research design of the study. Descriptive statistics were employed to summarize the respondents' profiles and describe their perceptions of LGU preparedness, LGU effectiveness, LGU employee training, and citizen satisfaction. Measures such as mean and standard deviation were used to present the data in a clear and interpretable manner.

For inferential analysis, correlation and regression analyses were performed using the Statistical Package for the Social Sciences (SPSS) to examine the relationships among the study variables. Regression analysis was utilized to determine the extent to which LGU preparedness and LGU effectiveness predict citizen satisfaction.

The results of the statistical analyses were carefully reviewed and interpreted in relation to the research objectives and hypotheses. Based on the statistical findings, appropriate inferences and conclusions were drawn regarding the impact of the digitalization of the LGU system on the responsiveness of planning and development service delivery (Creswell & Creswell, 2018).

The findings of the study were summarized and presented using tables to enhance clarity and understanding. The analyzed data served as the basis for scholarly reporting and dissemination, including research summaries and potential publication in academic outlets, in accordance with established academic and ethical standards (American Psychological Association, 2020).

Results and Discussions

The study specifically examines a hybrid service environment where manual and digital processes coexist. The analytical structure follows the study's conceptual framework, evaluating LGU preparedness and LGU effectiveness, LGU employee training, and citizen satisfaction. To maintain methodological rigor, the presentation of findings is organized to align directly with the research questions and established null hypotheses.

To ensure a comprehensive view of the service landscape, the study utilized two distinct survey instruments targeting both internal operations and external outcomes: LGU Employee Perspective. The first instrument was administered to staff within planning and development roles. It assessed internal organizational factors, specifically focusing on how preparedness

and effectiveness fluctuate based on the level of digitalization training received by the workforce. Citizen Perspective: The second instrument targeted residents who have engaged with the locational clearance process through manual or digital channels. This survey captured perceptions of service quality and examined how the LGU's perceived preparedness and effectiveness translate into overall satisfaction.

The analysis employed a tiered statistical approach to ensure the findings were both descriptive and inferential: Descriptive Analysis: The mean and standard deviation were calculated to establish the baseline levels of preparedness, effectiveness, training, and satisfaction. Benchmark Testing: Predictive Modeling: The discussion merges these statistical outputs with existing literature on digital governance and public service delivery. By weighing the individual and combined influences of organizational capacity and training, this chapter clarifies how these elements shape the citizen experience in Mabalacat City. The findings presented here provide the empirical foundation for the concluding synthesis, yielding evidence-based policy recommendations to refine the city's hybrid service delivery and enhance local government responsiveness.

Reliability and Validity Tests

Table 1 represents the internal consistency and reliability of the data collection tools. Firstly, a pilot study with 20 LGU employee respondents and 30 citizen respondents was considered; respondents utilized in the pilot study were excluded from the actual study population. The study utilized Cronbach's alpha coefficient for both the LGU employee and citizen respondent questionnaires. This statistical measure assesses the degree to which individual items within a survey consistently capture their intended constructs. Following academic conventions, an alpha value of 0.70 served as the benchmark for acceptable reliability, while scores of 0.90 or higher were categorized as excellent.⁵

Table 1
Reliability Statistics

Instrument	Cronbach's Alpha	N of Items	Interpretation
Employee	.962	39	Excellent
Citizen	.918	18	Excellent

Table 2 represents the Digital Infrastructure and ICT Preparedness, with a mean of 2.95, which is consistent with previous studies describing LGUs in a transitional stage of digital governance, where foundational infrastructure exists but remains underutilized. Internet Connectivity, with a mean of 3.40, aligns with literature identifying connectivity as a key enabler of citizen trust and engagement in digital services (Virnandes et al., 2024). In contrast, the low score for System Interoperability, with a mean of 2.60, mirrors earlier findings that highlight digital silos as a persistent barrier to integrated and data-driven governance (Hardi et al., 2025). Similarly, the ICT Equipment result with a mean of 2.95 supports prior research noting that infrastructure-heavy investments often outpace the development of human and process capabilities required for effective system use (David et al., 2023). The moderate levels of Cybersecurity (with a mean = 2.90) and Continuity Planning with a mean = 2.95) are also consistent with studies showing that LGUs with mid-level digital maturity tend to adopt reactive security measures, increasing vulnerability to cyber and service disruptions (Harry et al., 2025).

Table 2*Digital Infrastructure and ICT Preparedness*

Statements	Mean	Std. Deviation	Remarks	Interpretation
The LGU has adequate ICT equipment and digital tools needed for planning and development.	2.95	1.108	Neutral	Moderately Prepared
Internet connectivity in the CPDO is reliable for digital transactions.	3.40	.871	Neutral	Moderately Prepared
LGU Systems used for planning are interoperable with other offices.	2.60	1.297	Neutral	Moderately Prepared
Cybersecurity protocols and data protection mechanisms are actively implemented.	2.90	1.236	Neutral	Moderately Prepared
Continuity planning/disaster-resilient ICT are in place to maintain essential functions during and immediately after service interruption.	2.95	1.154	Neutral	Moderately Prepared

In Table 3, the result of the study shows that the leadership Support (Mean: 4.03) and Staff Role Clarity (Mean: 3.45) are strong supports from leadership is the primary drivers for overcoming resistance to new technology in government settings (David et al., 2023).

Digital Policies (Mean: 3.28) and Roadmaps (Mean: 3.10), which suggests that digital efforts are currently person-dependent rather than institution-dependent. Without a codified roadmap, the LGU risks losing progress during leadership transitions (Hardi et al., 2025). Disaster Resilience ICT (Mean: 2.88) exposes a critical institutional risk. Recent literature argues that modern government resilience requires shifting from physical offices to virtual organization frameworks, ensuring that public services can continue even if physical infrastructure is compromised (Virnandes et al., 2024).

Table 3*Organizational and Institutional Preparedness*

Statements	Mean	Std. Deviation	Remarks	Interpretation
The LGU has clear digital governance policies and standard operating procedures.	3.28	1.037	Neutral	Moderately Prepared
LGU leadership provides strong support for digital transformation initiatives.	4.03	1.000	Agree	Well Prepared
Roles and responsibilities of planning and development staff are clearly defined.	3.45	1.037	Agree	Well Prepared
The LGU maintains a digitalization or e-governance roadmap guiding planning processes	3.10	1.150	Neutral	Moderately Prepared
The LGU maintains a Continuity Planning and Disaster Resilience ICT program	2.88	.822	Neutral	Moderately Prepared

In Table 4, under the system readiness, the digital information systems for planning (Mean = 4.28) is consistent with the resource-based View, which identifies specialized digital systems as strategic assets that enable evidence-based planning and predictive decision-making (David et al., 2023). This capability is supported by strong data integrity, reflected in updated and validated databases (Mean = 3.98) and the availability of reliable planning data when needed (Mean = 3.90). In addition, the integration of planning datasets across departments (Mean = 3.75) aligns with prior literature on effective data orchestration, which emphasizes the role of integrated data in reducing administrative silos and strengthening coordinated governance, and this result is consistent with the findings of Virnandes et al. (2024), who affirmed that such cross-departmental integration satisfies a core technical requirement for advancing toward a resilient, data-driven system.

Table 4*Data and Systems Preparedness*

Statements	Mean	Std. Deviation	Remarks	Interpretation
The LGU maintains updated, accurate, and regularly validated databases for planning.	3.98	.660	Agree	Well Prepared
The LGU uses GIS and digital information systems for planning activities.	4.28	.599	Strongly Agree	Very Well Prepared
Data used for planning are reliable and accessible when needed.	3.906	.591	Agree	Well Prepared
Planning datasets from various departments are integrated for analysis and service delivery	3.75	.809	Neutral	Moderately Prepared

In Table 5, the finding on budget allocation for digital planning (Mean = 3.03) suggests a basic or maintenance-level investment. This neutral score implies that digitalization is treated more as a periodic expense than as a sustained strategic investment essential for long-term urban resilience (Mergel et al., 2022). The lowest rating, availability of qualified personnel for digital planning tools (Mean = 2.93), highlights a clear human capital constraint. In line with the people-process-technology framework, existing technologies cannot be fully utilized without adequately skilled personnel; this finding supports earlier studies by (David et al., 2023), which showed that identifying skills gaps, particularly in spatial data analytics, was a major reason for underused GIS systems in local governments. At the same time, the LGU mitigates internal limitations through access to external technical support (Mean = 3.33), its strongest resource indicator. From an institutional perspective, this reflects a reliance on borrowed capacity. While effective in the short term, prior literature cautions that sustained dependence on external experts without internal capacity-building can result in institutional dependency and limit long-term system sustainability (Harry et al., 2025).

Table 5*Resource Readiness for Human and Financial*

Statements	Mean	Std. Deviation	Remarks	Interpretation
The LGU allocates sufficient budget for digitalization related to planning.	3.03	1.025	Neutral	Moderately Prepared
There are enough qualified personnel trained in digital planning tools.	2.93	1.023	Neutral	Moderately Prepared
The LGU has access to technical support from national agencies or consultants.	3.33	1.023	Neutral	Moderately Prepared
The LGU allocates sufficient budget for digitalization related to planning	3.03	1.025	Neutral	Moderately Prepared

In Table 6, under citizen satisfaction, the results indicate that public satisfaction with LGU services significantly exceeds the neutral baseline across all indicators ($p = .000$). The highest satisfaction was reported for C3 (service quality across digital and manual channels), highlighting the effectiveness of a hybrid service delivery model. Indicators C2 (services meeting expectations) and C1 (overall satisfaction) also show strong positive deviations, while C4 (likelihood to reuse services), though lowest, remains significantly above neutral, reflecting trust and confidence in LGU services. These findings are consistent with studies demonstrating that integrated digital and traditional service delivery, combined with responsive governance, enhances citizen satisfaction and perceived public value (Virnandes, Y. et al., 2024).

This section presents the analysis and discussion of the significant differences in LGU preparedness and LGU effectiveness across varying levels of employee training (basic, intermediate, and advanced) in the digitalization of planning and development services in Mabalacat City. To identify the significant difference in the level of employee preparedness and effectiveness across LGU employees when grouped according to their training level in the digitalization of planning and development services. Analysis of Variance (ANOVA) was employed to determine whether statistically significant differences exist among training groups, followed by Tukey's Honest Significant Difference (HSD) post hoc tests to identify specific group differences. This analysis directly addresses the study's hypothesis concerning the moderating role of LGU employee training in digital service delivery.

Table 6*Perceived Citizen Satisfaction*

Statements	Mean	Std. Deviation	Remarks	Interpretation
Overall, I am satisfied with the planning and development services provided by the LGU.	3.47	1.079	Agree	Satisfied
The planning and development services provided by the LGU meet my expectations.	3.56	1.091	Agree	Satisfied
I am satisfied with the Quality of services Delivered through both Digital and manual channels.	3.65	1.041	Agree	Satisfied
I would avail of the LGU's planning And development Services again if needed	3.38	1.126	Agree	Satisfied

The ANOVA results indicate a statistically significant difference in perceived Digital Infrastructure and ICT preparedness across training levels, $F = 5.599$, $p = .008$, confirming that employees' training level influences how ICT readiness is assessed. Consistent with prior studies, employees with advanced ICT training reported significantly higher preparedness than those with intermediate training ($p = .005$), supporting evidence that higher digital competence improves the ability to evaluate system interoperability, cybersecurity measures, and infrastructure resilience (Gil-Garcia, Dawes, & Pardo, 2018; Van Laar et al., 2017). The absence of significant differences involving the basic training group suggests that foundational ICT training may be insufficient for recognizing more complex digital infrastructure capabilities.

Table 7*Differences in Employee Preparedness by Training Level*

Dimensions	F	Sig.	Interpretation
Digital infrastructure and ICT preparedness.	5.599	.008	Significant
Organizational and institutional preparedness	3.337	.047	Significant
Data and system preparedness	3.309	.048	Significant
Resource Preparedness (Human and financial)	10.839	.000	Significant

Conclusion

From the results, the findings indicate that while LGU employees exhibit varying levels of preparedness and effectiveness, overall performance is positively perceived, and citizen satisfaction significantly exceeds the neutral baseline. Statistically, perceived LGU preparedness and effectiveness were found to be significant predictors of citizen satisfaction, highlighting the critical role of organizational preparedness and operational performance in shaping public perceptions of digital service quality.

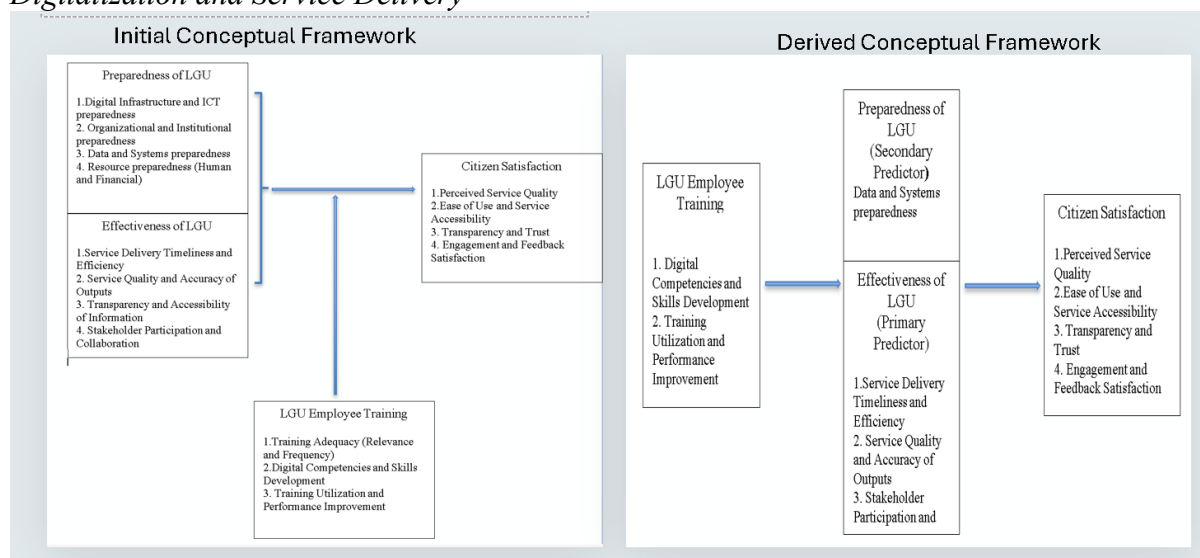
Employee training was observed to influence LGU preparedness and effectiveness, confirming that human resource capacity is essential for effective digitalization. However, training was not tested as a direct predictor of citizen satisfaction, suggesting that while it strengthens internal capabilities, citizen satisfaction depends primarily on observable organizational performance and service delivery outcomes.

To further understand the results of the study, the initial conceptual framework was designed as a strategic roadmap to examine the interplay between institutional readiness and public service outcomes within the context of Mabalacat City's digital transformation. The initial -framework originally positioned LGU Preparedness and LGU Effectiveness as independent variables expected to directly influence Citizen Satisfaction. Central to this theoretical design was the role of LGU Employee Training, which was initially conceptualized as a moderating variable intended to amplify or refine the impact of digital initiatives on service delivery. By aligning these variables, the framework sought to determine whether a "digitally-ready" and "effective" local government could successfully bridge the gap between internal administrative capabilities and the external expectations of the community it serves; on the other hand, the derived conceptual framework represents a move from a theoretical assumption to an empirically validated performance value chain. While the initial framework served as a guide for data collection, the final derived framework reflects the actual flow of influence as proven by the descriptive and inferential statistics. The Derived Conceptual Framework specifically focuses on the digitalization of the City Planning and Development Office (CPDO) within the Mabalacat City Government. Based on the statistical findings, a clear structure of the final framework, identifying what has been retained, refined, and established as the primary driver of satisfaction.

Initial Conceptual Framework vs. The Proposed Conceptual Framework

Figure 1

Comparison of the Initial and Proposed Conceptual Frameworks for Local Government Digitalization and Service Delivery



Overall, the study concludes that successful digitalization in Mabalacat City planning and development services requires a holistic approach that integrates organizational readiness, operational efficiency, skilled personnel, and citizen-centered strategies. Strengthening these dimensions can enhance service responsiveness, efficiency, and transparency, thereby improving public trust and satisfaction. The findings provide both theoretical contributions to e-governance literature by highlighting the interplay between preparedness, effectiveness, and citizen perceptions and practical guidance for LGUs aiming to implement an evidence-based and responsive digital service delivery.

Recommendations for Strengthening the Policy Implementations

Based on the integrated, statistically supported findings of this study, the following recommendations are proposed to strengthen policy implementation.

To improve LGU preparedness and effectiveness, Mabalacat City should institutionalize a comprehensive digital readiness framework and establish standard operating procedures for planning and development offices. This framework should clearly define roles, responsibilities, and processes for digital service delivery, supported by periodic skills assessments, refresher trainings, and digital infrastructure audits to ensure employees are equipped to provide efficient, accurate, and responsive services. Cross-departmental coordination mechanisms and a dedicated digital service excellence committee can further enhance operational efficiency and ensure the consistent adoption of innovative digital tools. Improving these areas is expected to directly influence citizen satisfaction and overall service quality.

Significantly differences from neutral level of agreement in LGU preparedness, effectiveness, training and citizen satisfaction.

Given the variations in perceptions across employees and citizens, it is recommended that performance monitoring mechanisms and key performance indicators (KPIs) be implemented to track processing time, service accuracy, responsiveness, and citizen feedback. Regular perception surveys, benchmarking with other LGUs, and actionable improvement plans should be conducted to identify gaps and ensure that policy implementation translates into tangible improvements in service delivery. Targeted capacity-building programs should prioritize areas where performance is below expected standards to reinforce policy effectiveness.

Differences in Employee Preparedness and Effectiveness Across Training Levels

Since training levels significantly influence preparedness and effectiveness, Mabalacat City should institutionalize continuous ICT and e-governance training programs, complemented by mentorship and peer-learning initiatives within LGU offices. Training needs assessments can tailor programs to specific employee groups, ensuring that those with lower preparedness receive priority support. Additionally, certification, recognition programs, and job rotation or cross-training can incentivize employees to apply new skills effectively and achieve a consistent level of competence across the organization.

Citizens' perceived LGU preparedness and effectiveness as predictors of citizen satisfaction. To enhance citizen satisfaction, policies should adopt a feedback-driven, citizen-centered approach, integrating surveys, focus groups, online suggestion platforms, and real-time digital feedback systems to continuously monitor service quality. Digital literacy and public awareness campaigns should be conducted to ensure citizens are aware of available services and can access them efficiently. Furthermore, citizen satisfaction indicators should be integrated into departmental performance evaluations to reinforce accountability and link responsiveness to policy outcomes.

Policy recommendations can be proposed in the digitalization of the Local Government Unit towards a more responsive service delivery in Mabalacat City. The convergence of descriptive, inferential, and predictive findings strongly indicates that Mabalacat City should gear towards a more responsive service delivery policy, towards a more capable employee to achieve citizen satisfaction.

Future Researcher

A limitation of the present study is that while training of employees was conceptualized as a moderating variable in the conceptual framework, its moderating role was not statistically tested using interaction effects. Instead, training was empirically analyzed as an independent grouping variable using ANOVA to examine differences in LGU preparedness and effectiveness. This analytical choice aligns with the study's focus on comparing outcomes across training levels but does not provide direct evidence of moderation on citizen satisfaction. Future research is recommended to employ regression-based interaction analyses or structural equation modeling to explicitly test the moderating effect of employee training on the relationship between LGU preparedness, effectiveness, and citizen satisfaction. Such analyses would provide empirical validation for the theoretical role of training as a moderator and further clarify its conditional impact on service outcomes.

Acknowledgements

The researchers would like to express their sincere gratitude to the Philippine Christian University and De La Salle University, Dasmariñas, Cavite, for their support in making this research possible.

References

- American Psychological Association. (2020). *Publication manual of the American Psychological Association* (7th ed.). American Psychological Association. <https://doi.org/10.1037/0000165-000>
- Bousdekis, A., & Cardinali, N. (2021). Public administration digital transformation: A training needs analysis and digital skills gap framework. *Trends and Applications in Information Systems and Technologies*, 1(1), 455–465.
- Bryman, A. (2016). *Social research methods* (5th ed.). Oxford University Press.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.
- Department of Information and Communications Technology. (2023). *E-Government master plan 2022–2028*.
- Department of the Interior and Local Government–Local Government Academy. (2023). *Local governance capacity development framework*.
- DeVellis, R. F. (2017). *Scale development: Theory and applications* (4th ed.). SAGE Publications.
- Field, A. (2018). *Discovering statistics using IBM SPSS Statistics* (5th ed.). SAGE Publications.
- Garcia, R. J., & Santos, P. L. (2024). The GIS competency gap in Southeast Asian LGUs: Institutionalizing spatial data infrastructure. *Asia-Pacific Journal of Public Administration*, 46(3), 201–219. <https://doi.org/10.1080/23276665.2024.2323456>
- Gil-Garcia, J. R., & Pardo, T. A. (2005). E-government success factors: Mapping practical tools to theoretical foundations. *Government Information Quarterly*, 22(2), 187–216. <https://doi.org/10.1016/j.giq.2005.02.001>
- Harry, C., Sivan-Sevilla, I., & McDermott, M. (2025). Measuring the size and severity of the integrated cyber attack surface across US county governments. *Journal of Cybersecurity*, 11(1), tyae032. <https://doi.org/10.1093/cybsec/tyae032>
- Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). The Guilford Press.
- Mehmood, R. (2023). Understanding local government digital technology adoption strategies: A PRISMA review. *Sustainability*, 15(12), 9645. <https://doi.org/10.3390/su15129645>
- Mergel, I. (2022). Digital transformation of the public sector: From e-government to digital government. In *Handbook of Public Administration* (pp. 134–148). Routledge.
- Organisation for Economic Co-operation and Development. (2021). *Education at a glance 2021: OECD indicators*. OECD Publishing. <https://doi.org/10.1787/b35a14e5-en>

United Nations Department of Economic and Social Affairs. (2022). *The Sustainable Development Goals report 2022*. United Nations.
<https://unstats.un.org/sdgs/report/2022/>

Virnandes, Y., et al. (2024). Impact of government digital transformation on citizen trust and participation: Evidence from Gowa Regency, Indonesia. *Frontiers in Human Dynamics*, 6, 1700582. <https://doi.org/10.3389/fhumd.2024.1700582>

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