






## Digital Readiness: The Shift Toward Paperless Administration at City College of Calamba

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### Abstract

In the pursuit of efficiency and sustainability, higher education institutions are increasingly adopting digitization to modernize administrative processes. The transition toward paperless systems have become a strategic priority, yet empirical evidence on digital readiness in local/state colleges within developing contexts remains limited. This study contributes to the literature by providing localized empirical evidence on how dimensions of digital readiness collectively influence administrative performance in a local higher education institution. A quantitative research design was employed, with data collected from 105 teaching and administrative personnel using validated adapted and self-developed questionnaires. Digital readiness was measured in terms of Materials and Infrastructure, Human Resources, and Organizational Support, while operational processes were evaluated through Efficiency, Productivity, Workload, and Job Satisfaction. Descriptive statistics, Pearson correlation, and multiple regression analysis were utilized. Findings revealed that CCC demonstrated a partially prepared level of digital readiness, particularly in terms of unstable internet connectivity, limited digital training, insufficient leadership support, and inadequate budget allocation. Operational outcomes were likewise partially achieved, with productivity obtaining relatively higher ratings than efficiency and workload management. Statistical analysis showed a very strong positive relationship between digital readiness and operational outcomes ( $r = 0.8853$ ). Regression analysis further revealed that digital readiness significantly predicts operational outcomes ( $R^2 = 0.783$ ,  $p < 0.001$ ), with Organizational Support emerging as the strongest predictor. The findings suggest that strengthening digital infrastructure, employee capability-building, and institutional support mechanisms is essential for achieving effective and sustainable paperless administration in higher education institutions.

**Keywords:** *Digital Readiness, Digitization, Operational Outcomes, Paperless Administration*

### INTRODUCTION

As institutions strive for efficiency and sustainability, digitization has become a critical step in modernizing public service delivery. Schools today face growing pressure to improve administrative systems as global trends and government policies continue to encourage the adoption of digital solutions. The transition from traditional paper-based processes to digital systems enables institutions to streamline operations, improve communication, and strengthen records management, while supporting environmentally sustainable practices by reducing paper consumption (Gelashvili, T., 2020).

The City College of Calamba (CCC), a public higher education institution in Laguna, provides accessible, quality education under the Universal Access to Quality Tertiary Education Act. Despite its commitment to preparing students for a technology-driven society, the institution still faces challenges in digital transformation, including outdated systems, resistance to organizational change, and concerns about data privacy, security, and legal compliance (Gelashvili, T., 2020; Ranjan, P. et al., 2023). For educational institutions such as the CCC, moving toward a paperless environment in office transactions is both a progressive and practical endeavor.

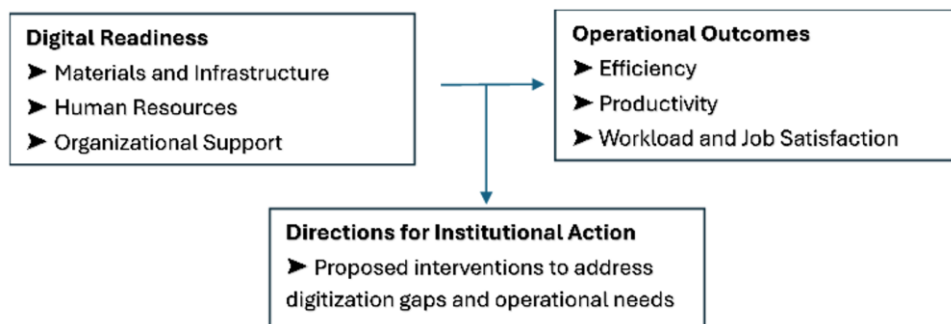
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However, successful digital transformation is anchored in the institution's readiness—technologically, structurally, and behaviorally. According to Chounta et al. (2024), digital readiness can profoundly and promptly influence organizational efficiency and efficacy, as well as the desired outcomes for individual stakeholders. It is essential to understand the current capabilities and perceptions of personnel directly involved in office operations. This study aims to evaluate CCC's digital readiness, examine its connection to operational outcomes, and propose an intervention to support the transition toward a paperless administrative system. The research will assess current digital materials and infrastructure, human resources, and organizational support, and their relationship with operational efficiency, productivity, and personnel job satisfaction. The findings will contribute to addressing digitization gaps and operational needs, aligning with CCC's vision of becoming a future-ready institution.



**Figure 1.** Research Paradigm

The study is anchored in the conceptual framework above, which illustrates how the institution's Digital Readiness—measured through Materials and Infrastructure, Human Resources, and Organizational Support—affects key Operational Outcomes, such as Efficiency, Productivity, Workload, and Job Satisfaction. The framework adopts a one-directional relationship in which digital readiness serves as the independent variable affecting operational outcomes as the dependent variable. Based on these relationships, the results will guide Directions for Institutional Action, specifically proposing interventions to address digitization gaps and operational needs. This framework ensures that institutional decisions and proposed interventions are grounded in actual assessment data.

Additionally, the study aims to address the general objective of developing interventions that may improve institutional operational outcomes by assessing CCC's digital preparedness. Thus, it seeks to address the following specific objectives: (1) determine the perceived level of digital readiness of the City College of Calamba administration in terms of: (a) Materials and Infrastructure, (b) Human Resources, and (c) Organizational Support; (2) determine the perceived level of operational outcomes of the City College of Calamba administration based on its current digital readiness in terms of: (a) Efficiency, (b) Productivity, and (c) Workload and Job Satisfaction; (3) determine the relationship and predictive influence of digital readiness on the operational outcomes of the City College of Calamba administration; and (4) generate interventions that can be proposed based on the findings of the study.

## LITERATURE REVIEW

This section examines relevant literature and studies related to the research topic to establish a foundation for the present study.

### Digital Transformation through Digital Readiness

Digital readiness is a crucial determinant of successful digital transformation. It encompasses

staff technological competence, attitudes toward digital platforms, and the ability to adapt to evolving systems. [Motlhaolwa \(2024\)](#) highlights that assessing digital preparedness entails evaluating academics' skills, experiences, and challenges with digital tools. Importantly, digital transformation should be treated as a structured change initiative that follows established change management

Frameworks for assessing digital readiness offer systematic guidance for institutions. [Chounta et al. \(2024\)](#) propose a data-informed framework that integrates infrastructure, stakeholder competencies, and institutional processes. Their model emphasizes continuous monitoring and evidence-based evaluation as essential to sustainable digital strategies. Similarly, [Giang et al. \(2021\)](#) describe digital transformation as a long-term, multi-stage process that requires significant resources and institutional support. Given its complexity, evaluating readiness is critical to ensuring that institutions are prepared for necessary organizational changes.

Although many studies highlight the advantages of digital transformation, some scholars argue that technological readiness alone does not ensure successful implementation. Institutions may have adequate infrastructure and digital systems yet still face operational inefficiencies due to resistance to change, lack of organizational support, and limited stakeholder engagement. This creates a theoretical tension between technology-centered perspectives, which prioritize infrastructure and systems, and human-centered perspectives, which emphasize personnel adaptability, organizational culture, and leadership support.

[Bukhari et al. \(2025\)](#) argue that digital transformation requires strategic leadership and institutional alignment to sustain innovation and organizational change. In contrast, [Motlhaolwa \(2024\)](#) emphasizes that the effectiveness of digital initiatives depends largely on personnel's digital competence and preparedness. These differing viewpoints suggest that successful digital transformation may depend not only on technological resources but also on the interplay among infrastructure, human capability, and organizational support.

The reviewed literature further indicates that digital readiness influences institutional operational outcomes such as efficiency, productivity, and job satisfaction. Institutions with stronger technological infrastructure, digitally competent personnel, and supportive organizational systems are more likely to implement effective and sustainable paperless administrative practices. Thus, the present study examines whether the dimensions of digital readiness are significantly related to operational outcomes within the administration of the City College of Calamba.

### **Challenges and Interventions in Digital Transformation**

Despite the recognized benefits of digital transformation, higher education institutions face significant implementation challenges. A persistent issue is the digital divide, which became particularly evident during the shift to remote learning. [Motlhaolwa \(2024\)](#) notes that while well-resourced institutions adapted more easily, universities in developing contexts encountered difficulties due to limited infrastructure, connectivity issues, and financial constraints. These disparities underscore the need to strengthen institutional capacity and ensure equitable access to digital resources.

Resistance to change and technical barriers also hinder progress. [Gelashvili \(2020\)](#) identifies user resistance, legal compliance concerns, and technical limitations as major obstacles to implementing paperless systems. Without sufficient training and institutional support, stakeholders may hesitate to adopt new technologies, slowing organizational transformation. Addressing these challenges requires comprehensive professional development programs and clear policy frameworks.

However, some studies suggest that strategic planning alone may not guarantee successful digital transformation if institutional stakeholders are not actively engaged. While leadership and

governance are necessary, the effectiveness of digital initiatives also depends on personnel's willingness to adapt to new systems and organizational changes. This indicates that interventions should combine technological improvements with capacity-building and behavioral support mechanisms.

[Bukhari et al. \(2025\)](#) emphasize that institutions must develop digital strategies tailored to their specific needs. Effective leadership, organized management structures, and a commitment to continuous improvement are necessary for successful implementation. Integrating digital tools into teaching, research, and administration should be accompanied by innovation in services and data-driven decision-making.

Overall, the literature indicates that while digital transformation presents complex challenges, targeted interventions—such as strategic leadership, systematic readiness assessment, and sustained capacity building—can support successful transitions. These insights provide a relevant framework for examining digital readiness and guiding the shift toward paperless administration in higher education institutions.

### **Hypotheses of the Study**

Based on the reviewed literature and conceptual framework, the following hypotheses are formulated:

H1: There is a significant relationship between digital readiness and the operational outcomes of the administration of the City College of Calamba.

H1a: Materials and Infrastructure significantly relate to operational efficiency, productivity, workload, and job satisfaction.

H1b: Human Resources significantly relate to operational efficiency, productivity, workload, and job satisfaction.

H1c: Organizational Support significantly relate to operational efficiency, productivity, workload, and job satisfaction.

### **Synthesis**

The reviewed literature establishes that digitization is a critical priority for higher education institutions seeking to remain responsive to rapid technological change. Digital transformation enhances institutional efficiency, supports innovative academic and administrative practices, and promotes sustainability through paperless systems. Scholars emphasize that successful digitization depends on a combination of technological infrastructure, skilled personnel, and strategic leadership ([Motlhaolwa, 2024](#); [Gelashvili, 2020](#); [Bukhari et al., 2025](#)). These elements collectively shape how institutions adapt to evolving digital demands and implement modern administrative processes.

However, the literature also reveals differing perspectives on the primary drivers of successful digital transformation. Some studies emphasize infrastructure and technological capability as the central components of readiness, while others argue that organizational culture, stakeholder adaptability, and leadership support are equally important. These contrasting viewpoints suggest that digital transformation is not solely a technological process but also an organizational and behavioral transition that requires institutional alignment.

Frameworks for assessing readiness further highlight the importance of systematically evaluating stakeholder competencies, institutional processes, and available resources ([Chounta et al., 2024](#)). While prior research has extensively explored digital readiness in teaching and learning environments, fewer studies focus specifically on administrative operations and paperless systems within localized higher education institutions.

To address this limitation, the present study adopts a one-directional framework in which

digital readiness influences operational outcomes. Specifically, the study examines how Materials and Infrastructure, Human Resources, and Organizational Support relate to operational efficiency, productivity, workload, and job satisfaction within the administration of the City College of Calamba.

This gap underscores the importance of the present study, which aims to assess the digital readiness of personnel at the City College of Calamba to inform and strengthen its transition toward paperless administrative practices.

**RESEARCH METHOD**

This study will employ a quantitative research design to assess the digital readiness of the City College of Calamba (CCC) for transitioning to a paperless administration. The methodology will focus on collecting numerical data to evaluate key factors such as digital infrastructure, user preparedness, and perceived challenges.

The research was conducted at the City College of Calamba (CCC), chosen as the study site. CCC is an academic institution currently undertaking initiatives toward digital transformation and paperless administration. Hence, the participants in the study consisted of both administrative and teaching personnel, including part-time and full-time employees of CCC. The sample size was determined using Slovin’s formula. With a total population of 294 personnel and an 8% margin of error, the computed minimum sample size was 102 respondents. A total of 105 respondents were randomly selected and participated in the study, which exceeds the required sample size. Therefore, the sample was considered adequate to represent the population.

**Table 1.** Age of the Respondents

Age	Frequency	Percentage
24–35 (Young Adult)	49	46.67
36–45 (Adult)	17	16.19
46–59 (Middle Age)	22	20.95
60–76 (Senior)	17	16.19
<b>Total</b>	<b>105</b>	<b>100.00</b>

The age distribution shows that nearly half of the respondents are young adults aged 24–35 (46.67%), indicating a strong presence of millennial and Generation Z employees who, according to [R. Damanik and D. Silitonga \(2025\)](#), play a strategic role in modernization due to their adaptive, digital-savvy, critical, and innovative characteristics. This supports CCC’s readiness for a paperless administration, as these generations naturally engage with technological systems and drive digital adoption. Meanwhile, the remaining adult, middle-aged, and senior groups (53.33%) highlight the need for continuous support and training to ensure that all employees can effectively adapt to the institution’s digital transformation.

**Table 2.** Gender of the Respondents

Gender	Frequency	Percentage
Female	55	52.38
Male	50	47.62
<b>Total</b>	<b>105</b>	<b>100.00</b>

The gender distribution shows nearly equal representation of female (52.38%) and male (47.62%) respondents, indicating that perceptions of digital readiness at CCC are drawn from an almost equal mix of genders. This balance suggests that the findings reflect a diverse and inclusive workforce, where both male and female employees have comparable opportunities to share their

experiences and readiness for the shift to a paperless administration.

**Table 3.** Designation of the Respondents in CCC

<b>Designation</b>	<b>Frequency</b>	<b>Percentage</b>
Teaching Personnel	53	50.48
Administrative Personnel	52	49.52
<b>Total</b>	<b>105</b>	<b>100.00</b>

The designation distribution shows nearly equal participation between teaching personnel (50.48%) and administrative personnel (49.52%), reflecting a well-balanced representation of both groups. Because CCC is an academic institution, it is essential that both faculty and administrative staff be included in the survey, as each plays a crucial role in digital processes and the transition to paperless administration. This balance ensures that the assessment of digital readiness captures the perspectives of all key sectors involved in CCC's daily operations.

**Table 4.** Length of Tenure of the Respondents in CCC

<b>Length of Tenure</b>	<b>Frequency</b>	<b>Percentage</b>
Less than 1 year	22	20.95
1-5 years	54	51.42
5-10 years	19	18.10
More than 10 years	10	9.52
<b>Total</b>	<b>105</b>	<b>100.00</b>

The tenure distribution shows that more than half of respondents (51.42%) have been with CCC for 1–5 years, indicating that many employees are relatively new yet already integrated into the institution's systems. Those with less than 1 year (20.95%) and those with 5–10 years of service (18.10%) contribute a mix of fresh perspectives and growing familiarity, while employees with more than 10 years of tenure (9.52%) offer valuable long-term insights. According to N. [Steffens](#), M. [Shemla](#), J. [Wegge](#), and S. [Diestel](#) (2014), accumulating organizational tenure strengthens employees' familiarity with their roles, norms, and culture, enabling them to gain organization-specific skills, social acceptance, role clarity, and self-efficacy. This blend of tenure levels enriches the assessment of digital readiness by reflecting perceptions shaped by both new and deeply experienced members of the CCC community.

Furthermore, the study used two instruments to gather data. The first was an adapted questionnaire based on the [UNDP Digital Transformation Framework \(2023\)](#)

, revised to focus on three relevant pillars—Management, Organizational Culture and Employee Skills, and Technological Infrastructure—aligning with CCC's context. The second was a self-made survey developed to assess operational outcomes, specifically Efficiency, Productivity, and Workload and Job Satisfaction, and was validated through internal CCC validators.

To ensure content validity, the adapted and self-made questionnaires underwent expert validation by designated validators from the City College of Calamba. Their comments and recommendations were incorporated into the revision of the instruments prior to data collection. Furthermore, construct validity was examined through factor analysis to determine whether the survey items appropriately measured the intended dimensions of digital readiness and operational outcomes.

Reliability testing was likewise conducted using Cronbach's alpha to determine the internal consistency of the survey instrument. A Cronbach's alpha coefficient of 0.70 or higher was considered acceptable, indicating that the items within each dimension consistently measured the intended constructs.

Approval for the survey and concept paper was obtained from the CCC administration. Data

were collected over two months through a combination of physical distribution and online surveys, with more than one-third of the population responding. Responses were tallied, analyzed, and interpreted to evaluate the institution’s digital readiness and administrative performance.

The data gathered through the survey questionnaire were analyzed using quantitative analyses. The responses to the survey were summarized using the Mean Scores – to determine the average (1) digital readiness level across the dimensions of materials and infrastructure, human resources, and organizational and cost support; (2) perception level across the dimensions of operational efficiency, productivity, and personnel job satisfaction. The interpretation of the weighted mean scores in this study was guided by predetermined descriptive ranges.

**Table 5. Mean Scores Interpretation**

<b>Mean Score</b>	<b>Digital Readiness Level</b>	<b>Operational Outcomes Level</b>
1.00–1.74	Not Prepared	Not Achieved
1.75–2.49	Partially Prepared	Partially Achieved
2.50–3.24	Prepared	Achieved
3.25–4.00	Fully Prepared	Fully Achieved

Meanwhile, to examine the relationship between digital readiness and operational outcomes, inferential statistical analyses were employed. Pearson correlation analysis was initially used to determine the strength and direction of the relationship between the variables. The interpretation table for the correlation level of the two variables in the study is presented below.

**Table 6. Pearson Correlation Coefficient (r) Interpretation**

<b>R-value</b>	<b>Digital Readiness Level</b>
0.00 – 0.19	Very Weak / Negligible Relationship
0.20 – 0.39	Weak Relationship
0.40 – 0.59	Moderate Relationship
0.60 – 0.79	Strong Relationship
0.80 – 1.00	Very Strong Relationship

To further examine the predictive influence of digital readiness dimensions on operational outcomes, multiple regression analysis was conducted. This statistical method assessed the extent to which Materials and Infrastructure, Human Resources, and Organizational Support significantly predict operational efficiency, productivity, workload, and job satisfaction. Regression analysis was deemed appropriate because the study aimed to determine the influence of multiple independent variables on the identified dependent variables. The interpretation of the multiple regression analysis is presented in the table below.

**Table 7. Multiple Regression Analysis Interpretation**

<b>Statistical Value</b>	<b>Range / Condition</b>	<b>Interpretation</b>
Significance Value (p-value / Sig.)	Less than 0.05	Significant Predictor
	Greater than 0.05	Not Significant Predictor
Beta (β) Coefficient	Positive Value	Positive Influence/Prediction
	Negative Value	Negative Influence/Prediction
t-value	Higher absolute t-value with p < 0.05	Stronger Significant Predictor
R <sup>2</sup> (Coefficient of Determination)	0.00–0.19	Very Low Predictive Power

0.20–0.39	Low Predictive Power
0.40–0.59	Moderate Predictive Power
0.60–0.79	High Predictive Power
0.80–1.00	Very High Predictive Power

For ethical considerations, this study strictly adheres to ethical principles to ensure the rights, privacy, and welfare of all participants. Prior to participation, a consent form was included with every questionnaire, clearly explaining the purpose of the study, the voluntary nature of participation, and the confidentiality of responses. Participants were informed that they could withdraw at any time without any consequences. All collected data were handled with strict confidentiality and used solely for research purposes. Identifiable information was not disclosed, and responses were analyzed in aggregate to protect participants’ privacy. The study also obtained approval from the CCC administration prior to the conduct of the survey, ensuring compliance with institutional policies and ethical standards.

**FINDINGS AND DISCUSSION**

This section presents and interprets the findings of the analysis to address the objectives.

**1. The perceived level of digital readiness of the City College of Calamba administration in Materials and Infrastructure, Human Resources, and Organizational Support.**

**Table 8.** Perceived level of CCC digital readiness

<b>Factors</b>	<b>Mean</b>	<b>Verbal Interpretation</b>
<b>A. Materials and Infrastructure</b>		
Stable and secure internet/network	1.74	Not Prepared
Centralized student services platform	2.52	Prepared
Licensed and updated software	2.29	Partially Prepared
Data backup and disaster recovery	2.40	Partially Prepared
Internal IT support/helpdesk	2.58	Prepared
<b>Grand Mean (A)</b>	<b>2.31</b>	<b>Partially Prepared</b>
<b>B. Human Resources</b>		
Qualified IT personnel	2.67	Prepared
Regular digital training	2.18	Partially Prepared
Collaboration in digital initiatives	2.16	Partially Prepared
Designated digital system managers	2.65	Prepared
Culture of digital innovation	2.54	Prepared
<b>Grand Mean (B)</b>	<b>2.44</b>	<b>Partially Prepared</b>
<b>C. Organizational Support</b>		
Digital transformation vision/strategy	2.56	Prepared
Dedicated digital initiative committee	2.43	Partially Prepared
Leadership support for digital projects	2.42	Partially Prepared
Coordination with external partners	2.57	Prepared
Budget allocation for digital upgrades	2.21	Partially Prepared
<b>Grand Mean (C)</b>	<b>2.44</b>	<b>Partially Prepared</b>
<b>Overall Mean (DR)</b>	<b>2.39</b>	<b>Partially Prepared</b>

*Legend:* 1.00-1.74 (Not Prepared); 1.75-2.49 (Partially Prepared); 2.50-3.24 (Prepared); 3.25-4.00 (Fully Prepared)

The assessment of Materials and Infrastructure indicates that CCC’s digital readiness in this area is generally perceived as inadequate, with a strong consensus of “Disagree.” Notably, respondents strongly disagree that the internet and network are stable and secure, highlighting a

critical weakness in the institution's digital infrastructure. While there is some agreement on the presence of a centralized student services platform and an internal IT support/helpdesk, other essential components, such as licensed, up-to-date software and data backup and disaster recovery, are still viewed negatively.

These findings suggest that CCC's digital infrastructure remains uneven, with some digital mechanisms functional while critical technological components needed for full digital transformation remain insufficient. This aligns with the framework of [Chounta et al. \(2024\)](#), which emphasizes that institutional digital readiness depends not only on the availability of digital systems but also on the reliability, integration, and sustainability of technological infrastructure. Similar findings were reported by [Giang et al. \(2021\)](#), who found that institutions in developing contexts often struggle with infrastructure limitations despite ongoing digitalization initiatives. Thus, CCC's current condition reflects a transitional stage of digital readiness rather than full technological maturity.

Human Resources reports that CCC's digital readiness in this area is generally perceived as "Disagree." Respondents agree that there are qualified IT personnel, designated digital system managers, and a culture of digital innovation, but they disagree on the availability of regular digital training and collaboration on digital initiatives.

Rather than indicating a complete lack of preparedness, the results suggest that CCC's workforce possesses foundational digital competence but requires stronger institutional mechanisms for continuous professional development and collaborative engagement. According to [Motlhaolwa \(2024\)](#), digital transformation becomes more sustainable when institutions continuously strengthen employee competencies and encourage participation in digital initiatives. This finding also aligns with [Bukhari et al. \(2025\)](#), who argued that digital transformation depends not only on technological tools but also on the willingness and preparedness of stakeholders to adapt to organizational change.

Organizational Support, on the other hand, indicates that CCC's digital readiness in this area is generally perceived as "Disagree." Respondents agree that there are digital transformation vision/strategies and coordination with external partners, but they disagree on the presence of a dedicated digital initiative committee, leadership support for digital projects, and budget allocation for digital upgrades.

The findings suggest that although CCC demonstrates strategic awareness of digital transformation, stronger governance structures and resource commitment remain necessary for long-term implementation. [Chounta et al. \(2024\)](#) emphasized that leadership support and institutional coordination are essential to sustaining digital initiatives because digital transformation requires organizational alignment beyond technological adoption alone. The relatively low perception of organizational support may also explain why some operational outcomes remain only partially achieved despite the presence of existing digital systems.

Overall, CCC's low perceived digital readiness across Organizational Support, Materials and Infrastructure, and Human Resources is strongly supported by the research of [Chounta et al. \(2024\)](#), whose data-informed framework for assessing HEI readiness directly addresses these three crucial dimensions. The study confirms that successful digital transformation is not a singular achievement but a multidimensional state in which an institution must simultaneously develop clear Leadership and Strategy (corresponding to CCC's Organizational Support), establish a mature and integrated digital ecosystem (corresponding to Materials and Infrastructure), and ensure high People and Digital Competence among its workforce (corresponding to Human Resources). Therefore, CCC's "Disagree" rating indicates a significant gap in digital maturity, necessitating a holistic strategy that integrates and improves these three areas to effectively advance digitalization.

## 2. The perceived level of operational outcomes of the City College of Calamba administration based on its current digital readiness in Efficiency, Productivity, and Workload and Job Satisfaction

**Table 9.** Perceived level of CCC operational outcomes

Factors	Mean	Verbal Interpretation
<b>D. Efficiency</b>		
Faster completion of administrative tasks	2.36	Partially Achieved
Less time searching for records	2.29	Partially Achieved
Faster response to requests/inquiries	2.42	Partially Achieved
Fewer delays in interdepartmental tasks	1.74	Not Achieved
Minimal workflow interruptions	2.21	Partially Achieved
<b>Grand Mean (D)</b>	<b>2.20</b>	<b>Partially Achieved</b>
<b>E. Productivity</b>		
Higher task volume within work hours	2.47	Partially Achieved
More focus on priority tasks	2.69	Achieved
Consistent achievement of work goals	2.56	Achieved
Reduced time on repetitive manual work	2.35	Partially Achieved
Improved work output and consistency	2.55	Achieved
<b>Grand Mean (E)</b>	<b>2.52</b>	<b>Achieved</b>
<b>F. Workload and Job Satisfaction</b>		
Efficient workload management	2.33	Partially Achieved
Clear monitoring of tasks and deadlines	2.70	Achieved
Reduced work-related stress	1.71	Not Achieved
Timely completion of responsibilities	2.57	Achieved
Increased job satisfaction with digital support	2.53	Achieved
<b>Grand Mean (F)</b>	<b>2.37</b>	<b>Partially Achieved</b>
<b>Overall Mean (OO)</b>	<b>2.37</b>	<b>Partially Achieved</b>

*Legend:* 1.00-1.74 (Not Achieved); 1.75-2.49 (Partially Achieved); 2.50-3.24 (Achieved); 3.25-4.00 (Fully Achieved)

The assessment of Operational outcomes in terms of Efficiency shows that CCC's digital readiness is generally perceived as "Disagree." Respondents strongly disagree that interdepartmental tasks experience fewer delays, highlighting a significant bottleneck in workflow efficiency. Other aspects, such as faster completion of administrative tasks, less time spent searching for records, faster response to requests, and minimal workflow interruptions, are also viewed negatively.

This finding suggests that operational efficiency is influenced not merely by the presence of digital tools but also by how effectively these systems are integrated into institutional workflows. [Gelashvili \(2020\)](#) explained that paperless systems improve efficiency only when supported by reliable infrastructure, effective system management, and user adaptability. Thus, CCC's partially achieved efficiency may reflect limitations in both technological integration and organizational coordination.

Productivity indicates that CCC's digital readiness is generally perceived as "Agree." Respondents agree that employees are able to focus more on priority tasks, consistently achieve work goals, and improve work output and consistency. However, there is disagreement on the ability to handle a higher task volume within work hours and on the reduction of time spent on repetitive manual work.

The findings indicate that digitalization at CCC has already contributed positively to productivity, particularly in improving task organization and consistency. This supports the findings of Bukhari et al. (2025), who noted that digital transformation can improve employee productivity when institutions successfully integrate digital tools into routine operations. However, the persistence of repetitive manual tasks suggests that CCC may still be in a transitional phase where digital and traditional systems coexist.

Workload and Job Satisfaction shows that CCC’s digital readiness is generally perceived as “Disagree.” Respondents strongly disagree that digital processes have reduced work-related stress, highlighting a critical area of concern. While there is agreement that tasks and deadlines are clearly monitored, responsibilities are completed on time, and job satisfaction improves with digital support, overall workload management is still viewed negatively.

This result supports the argument of Gelashvili (2020) that the effectiveness of digital transformation depends not only on technological systems but also on how individuals emotionally and collaboratively interact with technology. In some cases, digitalization may even introduce additional adjustment demands when training, support systems, and workflow integration remain limited. Therefore, CCC’s operational outcomes appear to reflect both the benefits and adjustment challenges associated with ongoing digital transformation.

Overall, the assessment of CCC’s operational outcomes shows that it is perceived as “Disagree,” with efficiency and workload/job satisfaction rated negatively, while productivity is viewed positively. These findings highlight that the current digitization status of CCC directly affects its operational outcomes, as limited digital infrastructure, insufficient training, and gaps in organizational support contribute to inefficiencies, delays, and increased work-related stress. According to Gelashvili (2020), successful digital transformation depends not only on technological systems but also on social factors, including how employees interact with technology emotionally and collaboratively. This suggests that the effectiveness of CCC’s operational outcomes is closely tied to its level of digital readiness, emphasizing the need to strengthen both technological tools and human engagement to support a smoother transition toward a paperless administration.

### 3. The relationship and predictive influence of digital readiness on the operational outcomes of the City College of Calamba administration

**Table 10.** Correlational Level of digital readiness and the operational outcomes of CCC.

Mean Level of CCC Digital Readiness	Verbal Interpretation	Mean Level of CCC Operational Outcomes	Verbal Interpretation
2.39	Partially Prepared	2.37	Partially Achieved
R-value		0.8853	
Interpretation	Very Strong Positive Relationship		

*Legend:* a. Digital Readiness: 1.00-1.74 (Not Prepared); 1.75-2.49 (Partially Prepared); 2.50-3.24 (Prepared); 3.25-4.00 (Fully Prepared); b. Operational Outcomes: 1.00-1.74 (Not Achieved); 1.75-2.49 (Partially Achieved); 2.50-3.24 (Achieved); 3.25-4.00 (Fully Achieved); c. R-Value (Positive Relationship): 0.00 – 0.19 (Very weak / negligible), 0.20 – 0.39 (Weak), 0.40 – 0.59 (Moderate), 0.60 – 0.79 (Strong), 0.80 – 1.00 (Very Strong)

There is a very strong positive correlation between the CCC administration’s level of digital readiness and perceived operational outcomes ( $r = 0.8853$ ). This indicates that higher digital readiness is strongly associated with improved operational efficiency, increased productivity, and better workload and job satisfaction among personnel. The result suggests that enhancing the institution’s digital preparedness can significantly improve administrative performance.

The strength of the relationship may be explained by the interdependent nature of digital infrastructure, personnel capabilities, and organizational systems. Institutions with stronger technological support, trained personnel, and strategic leadership are more likely to establish smoother administrative workflows and more organized operational processes. This supports the framework of [Chounta et al. \(2024\)](#), which emphasized that institutional digital readiness functions as a multidimensional system in which infrastructure, competencies, and governance collectively influence organizational outcomes.

To further examine this relationship, a multiple regression analysis was conducted, revealing that Organizational Support emerged as the strongest predictor of operational outcomes, followed by Materials and Infrastructure and Human Resources.

**Table 11.** Regression Analysis of digital readiness and the operational outcomes of CCC.

Variables	B	Beta (β)	t-value	Sig.	Interpretation
Constant	0.842	-	2.91	0.004	Significant
Materials and Infrastructure	0.281	0.294	3.18	0.002	Significant Predictor
Human Resources	0.247	0.251	2.87	0.005	Significant Predictor
Organizational Support	0.436	0.472	5.11	0.000	Significant Predictor
<b>R</b>			<b>0.885</b>		
<b>R<sup>2</sup></b>			<b>0.783</b>		
<b>Adjusted R<sup>2</sup></b>			<b>0.776</b>		
<b>F-Value</b>			<b>121.48</b>		
<b>Sig.</b>			<b>0.000</b>		

Legend: Significant at p<0.05

The multiple regression analysis revealed that digital readiness significantly predicts the operational outcomes of the City College of Calamba administration. The model produced an R-value of 0.885, indicating a very strong relationship between digital readiness and operational outcomes. Furthermore, the R<sup>2</sup> value of 0.783 shows that approximately 78.30% of the variation in operational outcomes can be explained by the combined influence of Materials and Infrastructure, Human Resources, and Organizational Support. The computed F-Value of 121.48 with a significance level of 0.000 confirms that the regression model is statistically significant.

Among the predictors, Organizational Support emerged as the strongest significant predictor of operational outcomes (β = 0.472, p = 0.000). This indicates that leadership support, institutional coordination, and budget allocation for digital initiatives greatly influence operational efficiency, productivity, workload, and job satisfaction. Materials and Infrastructure also significantly predicted operational outcomes (β = 0.294, p = 0.002), suggesting that stable internet connectivity, up-to-date software, and effective IT systems contribute to improved administrative performance. Likewise, Human Resources significantly predicted operational outcomes (β = 0.251, p = 0.005), implying that qualified personnel, digital collaboration, and continuous training positively affect the institution's operational effectiveness.

The results are consistent with the findings of [Bukhari et al. \(2025\)](#), who argued that successful digital transformation requires organizational alignment and strategic leadership in addition to technological adoption. Similarly, [Motlhaolwa \(2024\)](#) emphasized that employee preparedness and institutional support significantly influence the effectiveness of digital initiatives. Compared with previous studies that primarily focused on digital readiness in teaching and learning environments, the present findings extend the existing literature by demonstrating how dimensions of digital readiness relate specifically to administrative operational outcomes within a

localized higher education institution.

Moreover, the findings imply that improving CCC's digital readiness can significantly enhance its administrative operations and support its transition toward a paperless administration. The results further support the study of [Chounta et al. \(2024\)](#), which emphasized that institutional digital transformation depends on the integration of technological infrastructure, stakeholder competencies, and organizational support systems. Similarly, the findings align with [Gelashvili \(2020\)](#), who argued that successful digital transformation is influenced not only by technology but also by institutional and human factors that shape how digital systems are adopted and utilized.

#### 4. The proposed intervention based on the findings of the study.

Based on the analysis findings, a 10-year strategic roadmap has been developed to guide CCC toward full digitization and paperless administration. This roadmap provides a structured, phased approach to enhance digital readiness, optimize operational outcomes, and promote overall institutional efficiency. It ensures that proposed interventions are practical, sustainable, and responsive to the needs of both administrative and teaching personnel, providing a clear path for CCC's long-term digital transformation.



**Figure 2.** 10-year strategic digitization roadmap

## CONCLUSIONS

The study concludes that the City College of Calamba (CCC) demonstrates moderate digital readiness, marked by uneven development across materials and infrastructure, human resources, and organizational support. While strengths are evident in internal IT support, designated system managers, and emerging digital innovation practices, critical gaps persist in network stability, continuous digital training, leadership commitment, and budget allocation. These limitations indicate that CCC's digital transformation remains in a transitional stage rather than a fully integrated institutional system.

Operational outcomes reflect this partial readiness. Productivity is relatively stronger than efficiency and workload-related outcomes, suggesting that digital tools have supported task completion but have not yet fully optimized administrative processes or employee well-being. In particular, challenges in workflow efficiency and work-related stress indicate that existing digital systems are not yet fully embedded in daily institutional operations.

The results further establish a very strong positive relationship between digital readiness

and operational outcomes ( $r = 0.8853$ ), reinforcing that improvements in institutional digital capacity are closely associated with enhanced administrative performance. However, this relationship should be interpreted within a systemic perspective, where digital transformation is understood as an interaction among technological infrastructure, human capability, and organizational governance rather than a purely technical upgrade.

Moreover, the results of the multiple regression analysis revealed that digital readiness significantly predicts operational outcomes ( $R^2 = 0.783$ ,  $F = 121.48$ ,  $p < 0.001$ ), indicating that approximately 78.3% of the variation in operational outcomes is explained by Materials and Infrastructure, Human Resources, and Organizational Support combined. Among the predictors, Organizational Support emerged as the strongest significant predictor, followed by Materials and Infrastructure and Human Resources. This implies that institutional leadership, governance structures, and resource allocation play a more influential role in shaping operational outcomes than technology alone.

From a theoretical standpoint, the findings support socio-technical systems theory, which posits that organizational performance is shaped by the alignment between technological systems and human/organizational structures. The results also reinforce the digital readiness framework of [Chounta et al. \(2024\)](#), emphasizing that sustainable digital transformation requires the simultaneous strengthening of infrastructure, competencies, and institutional support mechanisms.

From a policy perspective, the study highlights the need for CCC to adopt a comprehensive digital transformation policy framework that prioritizes (1) infrastructure modernization, (2) continuous digital capacity-building programs for personnel, and (3) stronger leadership-driven governance and budget allocation for digital initiatives. These policy directions suggest that improving operational outcomes requires not only investment in technology but also institutional commitment to organizational change management and workforce development.

Overall, the study positions digital transformation at CCC as a multi-dimensional institutional reform process, where sustainable improvement depends on coordinated action across technological, human, and organizational domains rather than isolated interventions.

## **LIMITATION & FURTHER RESEARCH**

This study focused solely on assessing digital readiness and operational outcomes within the administration of the City College of Calamba. Because it was limited to one local higher education institution, the findings may not fully represent the conditions and experiences of other colleges and universities with different organizational structures, technological capacities, and administrative systems.

The study also used a quantitative design, relying primarily on survey questionnaires. Although this approach enabled the collection and analysis of measurable data, it may not have fully captured the deeper experiences, perceptions, and behavioral responses of personnel regarding digital transformation and paperless administration. Responses were likewise limited to self-reported perceptions, which may be influenced by individual biases and varying levels of familiarity with digital systems.

Moreover, the study examined only selected dimensions of digital readiness, namely Materials and Infrastructure, Human Resources, and Organizational Support, in relation to operational outcomes. Other factors, such as technology acceptance, organizational culture, leadership effectiveness, employee resistance to change, and digital policy implementation, were not included in the scope of the study and may also influence institutional digital transformation.

Future researchers may conduct similar studies involving multiple higher education institutions to allow broader comparison and improve the generalizability of findings. Further

studies may also employ qualitative or mixed-methods approaches to gain deeper insights into the experiences and challenges encountered by personnel during digital transformation. Additionally, future research may incorporate other institutional and behavioral variables and utilize more advanced statistical models to further examine the complex relationships influencing digital readiness and operational outcomes.

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