

Digitalization Management of Administrators and Organizational Efficiency of Public Elementary Schools in the Division of Dasmariñas City

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Abstract

This study examined the digitalization management of administrators and its relationship with the organizational efficiency of public elementary schools in the Division of Dasmariñas City. A descriptive-correlational research design was employed. The respondents consisted of 368 participants, including 20 supervisors, 20 school administrators, 20 Information and Communication Technology (ICT) coordinators, and 308 teachers. Data were gathered through a researcher-made questionnaire and documentary analysis of the Office Performance Commitment Review Form (OPCRF) ratings for School Years 2023–2024 and 2024–2025. Weighted mean, analysis of variance, and Pearson Product-Moment Correlation Coefficient were used to analyze the data.

The findings revealed that digitalization management was generally Evident, with an overall grand mean of 4.03. Capacity Building and Professional Development obtained the highest composite mean of 4.13, followed by Policy and Governance at 4.11. Organizational efficiency obtained an overall mean of 4.67, interpreted as Outstanding. Significant differences were found among the assessments of supervisors, administrators, ICT coordinators, and teachers. Correlation analysis showed significant relationships between organizational efficiency and Digital Literacy and Communication ($r = 0.31$, $p = 0.000$), Capacity Building and Professional Development ($r = 0.42$, $p = 0.002$), and Digital Storage and Software ($r = 0.29$, $p = 0.000$). Other dimensions did not show statistically significant relationships. The most prominent challenges involved insufficient ICT funding, unreliable backup power, and limited resources. Based on the findings, a Skills Enhancement Program was proposed to strengthen digital competencies, ICT governance, infrastructure, and organizational practices.

Keywords: *digitalization management, organizational efficiency, school administrators, ICT, public elementary schools, Dasmariñas City*

I. INTRODUCTION

Digital transformation has become increasingly important in educational institutions as schools adopt technology for administrative operations, communication, data management, reporting, and instructional support. Digitalization management involves the strategic planning, implementation, and maintenance of digital technologies to improve administrative and instructional functions within a school organization. In the context of public elementary schools, effective digitalization requires not only technological resources but also competent leadership, appropriate policies, professional development, and continuous monitoring.

The literature reviewed in the study indicates that digital technologies can improve organizational efficiency by streamlining administrative processes, facilitating communication, supporting data-driven decision-making, and improving resource management. However, challenges such as poor internet connectivity, insufficient ICT infrastructure, limited funding, inadequate technical support, and varying levels of digital competence may hinder successful implementation.

Organizational efficiency is likewise important in public schools because it reflects the ability of schools to effectively utilize resources, personnel, systems, and processes to achieve institutional goals and deliver quality educational services. Strong leadership, teacher engagement, governance, resource management, and supportive organizational practices contribute to efficient school operations.

Despite the increasing use of digital technologies in schools, there remains a need to determine how digitalization management relates to organizational efficiency, particularly in public elementary schools in the Division of Dasmariñas City. The study therefore investigated the level of digitalization management of administrators, the organizational efficiency of schools, differences in stakeholder assessments, relationships between digitalization dimensions and organizational efficiency, challenges encountered, and the acceptability of a proposed Skills Enhancement Program.

The study specifically examined digitalization management in terms of:

1. Digital Literacy and Communication;
2. Infrastructure and Facilities;
3. Policy and Governance;
4. Capacity Building and Professional Development;
5. Digital Storage and Software;
6. Data Record Management;
7. Digital Libraries and Learning Hubs; and
8. Digital Policy Implementation and Monitoring.

The study was guided by the hypothesis that there is **no significant relationship between digitalization management of administrators and organizational efficiency.**

II. METHODS

Research Design

The study employed a **descriptive-correlational research design**. This design was appropriate because the study sought to describe the existing level of digitalization management and organizational efficiency and determine the relationship between the variables without manipulating them.

Participants and Sampling

The study involved **368 respondents** from public elementary schools in the Division of Dasmariñas City. These consisted of:

Respondent Group	Number
Supervisors	20
School Administrators	20
ICT Coordinators	20
Teachers	308
Total	368

Total enumeration was used for supervisors, school administrators, and ICT coordinators, while simple random sampling was used for teacher respondents. Slovin's formula was used to determine the teacher sample from a population of 1,352.

Research Instruments

A researcher-made questionnaire was used to assess the digitalization management of administrators and the challenges encountered. The instrument was aligned with the relevant domains of the Philippine Professional Standards for School Heads. It underwent expert validation and pilot testing, with reliability assessed through Cronbach's alpha. Documentary analysis was also conducted using OPCRf ratings to determine organizational efficiency.

Data Gathering Procedure

Permission was secured from the Schools Division Superintendent, after which questionnaires were distributed to the selected respondents through printed and digital formats. OPCRf data covering School Years 2023–2024 and 2024–2025 were also obtained from the participating schools. The collected data were sorted, tabulated, statistically analyzed, and interpreted with the assistance of a statistician and adviser.

Statistical Analysis

The study utilized:

- Descriptive statistics;
- Weighted mean;
- Analysis of Variance (ANOVA);
- Pearson Product-Moment Correlation Coefficient (r); and
- Slovin's formula.

A **p-value below 0.05** was considered statistically significant.

III. RESULTS

Digitalization Management

The overall digitalization management of administrators obtained a **grand mean of 4.03**, interpreted as **Evident**.

Digitalization Dimension	Composite Mean Rank	
Capacity Building and Professional Development	4.13	1
Policy and Governance	4.11	2
Infrastructure and Facilities	4.06	3
Digital Literacy and Communication	4.04	4
Data Record Management	4.03	5
Digital Storage and Software	4.00	6
Digital Libraries and Learning Hubs	3.95	7
Digital Policy Implementation and Monitoring	3.93	8
Overall	4.03	

Capacity Building and Professional Development received the highest rating, suggesting that professional learning and capacity-building activities were strongly implemented. Digital Policy Implementation and Monitoring received the lowest rating, indicating an area that requires further strengthening.

Differences Among Respondent Groups

Significant differences were found among supervisors, school administrators, ICT coordinators, and teachers in their assessment of digitalization management. For example, Digital Literacy and Communication yielded an **F-value of 51.60 and $p = 0.000$** , indicating a statistically significant difference among the groups. Administrators generally provided higher ratings, while teachers tended to provide lower assessments.

Organizational Efficiency

The organizational efficiency of the participating schools was rated **Outstanding**, with an overall weighted mean of **4.67**. The results indicated that the schools consistently demonstrated high levels of organizational performance across the two school years covered by the study.

Relationship Between Digitalization Management and Organizational Efficiency

The Pearson correlation analysis produced the following results:

Digitalization Dimension	r	p-value	Result
Digital Literacy and Communication	0.31	0.000	Significant
Infrastructure and Facilities	0.11	0.090	Not Significant
Policy and Governance	0.07	0.310	Not Significant
Capacity Building and Professional Development	0.42	0.002	Significant
Digital Storage and Software	0.29	0.000	Significant
Data Record Management	0.06	0.450	Not Significant
Digital Libraries and Learning Hubs	-0.01	0.820	Not Significant
Digital Policy Implementation and Monitoring	0.03	0.670	Not Significant

The strongest significant relationship was found between **Capacity Building and Professional Development** and organizational efficiency ($r = 0.42$, $p = 0.002$). Digital Literacy and Communication also showed a significant positive relationship ($r = 0.31$, $p = 0.000$), while Digital Storage and Software showed a significant but weaker relationship ($r = 0.29$, $p = 0.000$).

Challenges Encountered

The respondents reported **moderately encountered challenges**, with a grand mean of **3.23**. The leading challenges included:

1. Insufficient budget for ICT procurement and upgrades – **3.57**;
2. Lack of reliable backup power during outages or brownouts – **3.56**; and
3. Limited resources that impede digitalization efforts – **3.50**.

These findings indicate that financial, infrastructure, and resource limitations remain important barriers to sustainable digital transformation.

IV. DISCUSSION

The findings demonstrate that digitalization management is generally evident in public elementary schools in the Division of Dasmariñas City. The relatively high overall mean of 4.03 indicates that schools have established digital practices across communication, infrastructure,

governance, professional development, data management, and digital systems. The highest rating for Capacity Building and Professional Development suggests that schools recognize the importance of developing the digital competencies of their personnel.

The significant differences among the four respondent groups indicate that stakeholders do not necessarily experience or perceive digitalization in the same way. Administrators provided more favorable assessments than teachers in several areas. This difference may be attributed to variations in responsibilities, access to digital systems, leadership roles, and exposure to ICT-related management activities. The findings reinforce the importance of obtaining perspectives from different stakeholder groups when evaluating school digitalization.

The organizational efficiency rating of 4.67, interpreted as Outstanding, indicates that participating schools maintained strong performance during the two school years examined. High organizational efficiency may reflect effective leadership, resource management, collaboration, and established school processes.

However, the correlation results demonstrate that **not every aspect of digitalization automatically translates into higher organizational efficiency**. Digital Literacy and Communication, Capacity Building and Professional Development, and Digital Storage and Software showed significant positive relationships with organizational efficiency. This suggests that human competencies and the effective use of digital systems may have a more direct association with school performance than the mere availability of physical infrastructure.

In contrast, Infrastructure and Facilities, Policy and Governance, Data Record Management, Digital Libraries and Learning Hubs, and Digital Policy Implementation and Monitoring did not demonstrate statistically significant relationships with OPCR performance. These findings suggest that technology infrastructure and policies may require complementary factors—such as competent users, effective leadership, sufficient training, and appropriate implementation—to produce measurable organizational outcomes.

The challenges further support this interpretation. Insufficient ICT funding, unreliable power supply, and limited resources were among the most frequently encountered concerns. These constraints can limit schools' ability to sustain digital systems even when personnel possess adequate digital competencies. The findings therefore highlight the need for integrated interventions involving **funding, infrastructure, professional development, governance, technical support, and monitoring**.

Based on these findings, the proposed Skills Enhancement Program focuses on strengthening digital literacy and communication, ICT infrastructure, governance, professional development, digital storage, data management, digital libraries, and policy implementation and monitoring. The program is designed to address the identified resource, connectivity, training, collaboration, and monitoring gaps.

CONCLUSION

The study concludes that digitalization management among administrators in public elementary schools in the Division of Dasmariñas City is generally **Evident**, while organizational efficiency is **Outstanding**. Although digitalization is generally well implemented, stakeholder assessments differ significantly.

More importantly, the findings show that selected dimensions of digitalization—particularly **Digital Literacy and Communication, Capacity Building and Professional Development, and Digital Storage and Software**—are significantly associated with organizational efficiency. Other dimensions did not demonstrate statistically significant relationships.

The findings suggest that successful digital transformation should not focus solely on acquiring technology. Rather, schools should prioritize **developing people, strengthening leadership, ensuring adequate resources, improving digital systems, and sustaining professional development**.

The proposed Skills Enhancement Program is therefore a practical response to the identified challenges and may serve as a framework for strengthening digitalization management and organizational efficiency in public elementary schools.