

School Leaders E-Governance and Organizational Agility of Public Junior High Schools in the Division of Cavite Province: Basis for Continuous Improvement Program

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ABSTRACT

This study assessed school leaders' e-governance and the organizational agility of selected public junior high schools in the Division of Cavite Province as a basis for a Continuous Improvement Program. A quantitative descriptive-correlational design was used. The study involved 414 respondents composed of nine principals, 46 department heads, and 359 teachers during School Year 2025–2026. A researcher-made and modified five-point survey questionnaire was administered, and the data were analyzed using frequency, percentage, weighted mean, analysis of variance, and Pearson product-moment correlation. School leaders' e-governance was Evident ($M = 3.89$), with online communication and collaboration platforms obtaining the highest domain mean ($M = 4.23$). Significant differences were found among principals, department heads, and teachers

across all seven e-governance dimensions. Organizational agility was also Evident ($M = 4.02$), led by ICT integration and digital competence ($M = 4.14$) and continuous learning and motivation ($M = 4.10$). E-governance was significantly related to leadership adaptability ($r = .87$), teachers' empowerment and collaboration ($r = .84$), ICT integration and digital competence ($r = .63$), decision-making and responsiveness ($r = .58$), and continuous learning and motivation ($r = .52$), with $p = .001$ in all tests. Challenges in e-governance and organizational agility obtained means of 3.70 and 3.59, respectively, and were concentrated in unstable internet connectivity, insufficient and outdated ICT resources, uneven digital skills, and weak continuity mechanisms. The proposed Continuous Improvement Program was Highly Acceptable ($M = 4.31$). The findings demonstrate that effective digital governance is strongly associated with adaptive leadership, empowered personnel, responsive decisions, and sustained organizational learning.

Keywords: *e-governance, organizational agility, school leadership, digital governance, public junior high schools, continuous improvement*

INTRODUCTION

Digital transformation has altered the ways educational institutions manage records, communicate with stakeholders, allocate resources, monitor programs, and make decisions. E-governance extends beyond the conversion of paper documents into electronic files; it involves the coordinated use of information and communication technologies to improve efficiency, transparency, accessibility, accountability, and participation. In schools, this requires leaders to establish secure digital workflows while ensuring that teachers, department heads, learners, parents, and community partners can participate meaningfully in institutional processes (United Nations, 2024; UNESCO, 2023).

The Philippine public sector has progressively adopted policies that recognize electronic documents, data privacy, digital service delivery, and decentralized school governance. Republic Act No. 9155 empowers school heads to manage institutional operations and resources, while Republic Act No. 8792 provides legal recognition

for electronic records and transactions. The Data Privacy Act of 2012 further requires schools to protect personal and institutional information. The source manuscript also situated the study within the E-Governance Act of 2025, which strengthens the transition toward interoperable and technology-enabled public services.

Effective e-governance depends on more than policy mandates. Digital record-keeping may remain slow when files are fragmented, communication platforms may exclude stakeholders with limited connectivity, and online systems may become unsustainable when trained personnel transfer. Philippine studies have identified infrastructure deficiencies, digital-literacy gaps, resource constraints, resistance to change, and weak stakeholder support as recurring barriers to digital governance (Andaya et al., 2025; Vizmonte & Magbunga, 2023). These barriers are especially important in public schools, where leaders must balance instructional responsibilities, administrative requirements, and uneven access to technology.

Organizational agility refers to an institution's ability to anticipate, respond to, and adapt to changing conditions while maintaining performance. Agile schools demonstrate flexible leadership, empowered teachers, effective ICT integration, timely decision-making, and a culture of continuous learning. The Organizational Agility Conceptual Model emphasizes adaptability, responsiveness, collaboration, innovation, and the capacity to reconfigure organizational resources when conditions change (Žitkienė & Deksnys, 2018). Digital governance may therefore serve as an important enabling mechanism because it accelerates information flow, improves coordination, and supports evidence-based decisions.

In the Division of Cavite Province, public junior high schools differ in infrastructure, connectivity, personnel capacity, and exposure to digital systems. Principals, department heads, and teachers may also assess e-governance differently because their roles provide unequal access to strategic planning, system administration, and daily operational realities. Understanding these differences is necessary for designing interventions that are equitable and responsive rather than based exclusively on top-level perceptions.

This study assessed seven dimensions of school leaders' e-governance—digital record-keeping and automation, online communication and collaboration, stakeholder engagement, digital infrastructure, capacity building and digital literacy, sustainability and innovation, and monitoring and evaluation. It also assessed organizational agility through leadership adaptability, teachers' empowerment and collaboration, ICT integration and digital competence, decision-making and responsiveness, and continuous learning and motivation. The study tested differences among respondent groups, examined relationships between the principal variables, identified implementation challenges, and evaluated a proposed Continuous Improvement Program.

Literature Review

E-Governance in Educational Administration

E-governance is the application of digital technologies to improve institutional processes, service delivery, transparency, and stakeholder participation. Knowledge-management systems support this process by organizing information and enabling it to be created, stored, shared, and applied in decision-making (Alavi & Leidner, 2001). In schools, these functions include digital records, automated reporting, online communication, accessible information, and electronic monitoring.

Reliable records management is central to digital governance because incomplete, inconsistent, or insecure records weaken accountability. ISO 15489-1 identifies authenticity, reliability, integrity, and usability as essential properties of records-management systems (International Organization for Standardization, 2016). The World Bank (2021) likewise emphasized that data systems create public value only when supported by appropriate governance, infrastructure, security, and institutional capability.

Digital governance also depends on stakeholder participation. Freeman's (1984) stakeholder perspective explains that organizations are strengthened when people affected by decisions are meaningfully engaged. For schools, this requires communication systems that reach teachers, parents, learners, and community partners and provide channels for feedback, consultation, and collaborative planning.

Digital Infrastructure, Literacy, and Sustainability

Digital infrastructure and accessibility determine whether e-governance systems can function consistently. Connectivity failures, obsolete computers, inadequate maintenance, and limited technical assistance can delay administrative work and disrupt online collaboration. Philippine research has repeatedly identified internet access, equipment shortages, and resource constraints as major barriers to digital governance (Andaya et al., 2025; Daradar & Atutubo, 2023).

Human capability is equally important. Digital literacy includes the ability to access, evaluate, manage, create, and communicate information responsibly through technology (UNESCO, 2018). Digital competence extends to confident, critical, and ethical technology use (European Commission, 2022). Training therefore needs to be continuous, differentiated, and embedded in actual school workflows rather than limited to one-time demonstrations.

Sustainability requires policies, documentation, succession arrangements, equipment maintenance, secure backups, and alignment with institutional priorities. Innovation should not depend on one person or disappear when personnel change. The Oslo Manual describes innovation as the implementation of new or improved processes that create value, while emphasizing the importance of organizational conditions and systematic measurement (Organisation for Economic Co-operation and Development, 2018).

Organizational Agility and Adaptive School Leadership

Organizational agility is the capacity to sense change and respond through flexible structures, rapid decisions, learning, and innovation. Žitkienė and Deksnys (2018) conceptualized agility as a combination of organizational capabilities that allow institutions to adapt without losing coherence. In schools, this includes the ability to adjust plans when policies change, continue operations during disruptions, and mobilize personnel and digital resources quickly.

Leadership adaptability is strengthened when leaders have access to timely information and can coordinate decisions across organizational levels. Adaptive governance research shows that digital information, collaborative networks, and flexible decision structures improve institutional responses during uncertainty (Janssen & van der Voort, 2020). Digital champions also help overcome organizational barriers by aligning technology with strategy and building support across groups (Wilson & Mergel, 2022).

Teacher empowerment is another dimension of agility. Empowered teachers participate in decisions, exercise professional autonomy, share expertise, and contribute to organizational goals (Short & Rinehart, 1992). Their participation is particularly important in digital transformation because teachers experience the daily consequences of reporting systems, communication tools, and ICT requirements. Differences between administrative and classroom perceptions can therefore reveal implementation gaps that aggregated scores may conceal.

Continuous Improvement and Institutional Learning

Continuous improvement involves identifying gaps, implementing targeted interventions, monitoring results, and refining institutional practices. Adult-learning program development requires a clear connection among assessed needs, learning objectives, implementation strategies, stakeholder responsibilities, and evaluation measures (Caffarella & Daffron, 2013). In a digital-governance context, improvement efforts should combine infrastructure, policy, technical competence, and organizational learning.

Monitoring and evaluation provide evidence on whether systems are working as intended. The OECD (2021) recommends that evaluation consider relevance, coherence, effectiveness, efficiency, impact, and sustainability. These criteria are applicable to school e-governance because a platform may be technically functional but still inaccessible, poorly aligned with school goals, or unsustainable after changes in personnel.

The reviewed literature supports a relationship between e-governance and organizational agility, but it also shows that infrastructure, human capability, leadership, and stakeholder participation must be developed

together. The present study addressed this issue by measuring both variables across multiple respondent groups and translating the findings into a contextualized Continuous Improvement Program.

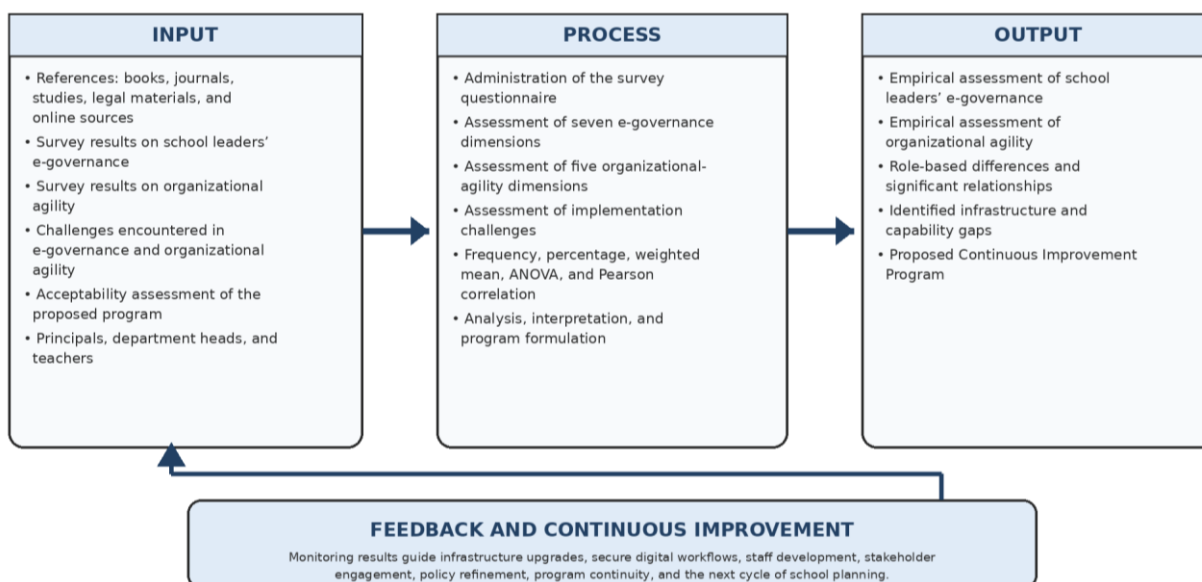


Figure 1. *Research paradigm of the study*

METHODS

Research Design

The study employed a quantitative descriptive-correlational research design. The descriptive component measured the existing levels of school leaders' e-governance, organizational agility, implementation challenges, and program acceptability. The correlational component determined the strength and statistical significance of the relationships between e-governance and the five dimensions of organizational agility. The variables were observed without experimental manipulation.

Research Locale

The study was conducted in selected public junior high schools under the Schools Division Office of Cavite Province. The respondent-distribution table in the source manuscript included schools located in Amadeo, Tanza, Silang, General Mariano Alvarez, Indang, and other participating Cavite localities. Data collection was conducted from November 2025 to May 2026.

Participants and Sampling Technique

A multistage purposive-stratified sampling procedure was used. Participating schools were selected according to accessibility, comparable institutional profiles, and coordination with the division office. Respondents were then grouped into principals, department heads, and teachers. The final sample consisted of 414 respondents: nine principals, 46 department heads, and 359 teachers. The source manuscript reported inclusion of available school administrators in the selected schools and stratified representation of teachers across the participating institutions.

Table 1. *Distribution of respondents by position*

Respondent Group	Frequency	Percentage
Principals	9	2.17%
Department heads	46	11.11%
Teachers	359	86.72%
Total	414	100.00%

Research Instrument

A researcher-made and modified questionnaire using a five-point Likert scale served as the main instrument. The first section gathered demographic information. The e-governance section covered digital record-keeping and automation, online communication and collaboration platforms, stakeholder engagement and participation, digital infrastructure and accessibility, capacity building and digital literacy, sustainability and innovation, and monitoring and evaluation. The organizational-agility section covered leadership adaptability, teachers' empowerment and collaboration, ICT integration and digital competence, decision-making and responsiveness, and continuous learning and motivation. Additional sections assessed challenges and the acceptability of the proposed program.

The instrument underwent adviser review and face and content validation by two graduate-studies professors. A pilot administration was conducted among public junior high school teachers and administrators who were similar to the intended respondents. Feedback was used to clarify terms, refine ambiguous items, and confirm the practical usability of the questionnaire. The source manuscript did not report a numerical reliability coefficient; therefore, no Cronbach's alpha or other coefficient is claimed in this article.

Data Gathering Procedure

A formal request was submitted to the Schools Division Office and participating school heads. After approval, the questionnaire was reproduced in printed form and encoded in Google Forms. The instruments were distributed personally or electronically to the target respondents. Completed responses were retrieved, checked, tabulated, organized, analyzed, and interpreted. The findings were then used to formulate the proposed Continuous Improvement Program.

Data Analysis

Frequency and percentage described the respondent profile. Weighted mean and rank summarized e-governance, organizational agility, implementation challenges, and program acceptability. One-way analysis of variance tested differences among principals, department heads, and teachers in the seven e-governance dimensions. Pearson product-moment correlation measured the direction and strength of the relationships between e-governance and the five organizational-agility dimensions. Statistical decisions were made at the .05 level of significance.

Ethical Consideration

Administrative permission was secured before the distribution of the questionnaires, and participation was undertaken through the approved school channels. Responses were consolidated and reported by group rather than by individual. The source manuscript did not provide a formal institutional ethics-review approval number or a detailed data-retention protocol; consequently, no such approval code or procedure is asserted in this article.

RESULTS AND DISCUSSION

School Leaders' E-Governance

Table 2. *Summary assessment of school leaders' e-governance*

E-Governance Dimension	Composite Mean	Interpretation	Rank
Online communication and collaboration platforms	4.23	Highly Evident	1
Digital record-keeping and automation	4.16	Evident	2
Stakeholder engagement and participation	3.90	Evident	3
Capacity building and digital literacy	3.84	Evident	4.5
Monitoring and evaluation	3.84	Evident	4.5
Sustainability and innovation	3.79	Evident	6
Digital infrastructure and accessibility	3.50	Evident	7
Overall weighted mean	3.89	Evident	

School leaders' e-governance was Evident ($M = 3.89$). Online communication and collaboration platforms ranked first ($M = 4.23$, Highly Evident), indicating that official announcements, updates, meetings, and coordination were already supported by digital channels. Digital record-keeping and automation ranked second ($M = 4.16$), suggesting that electronic storage and retrieval were commonly practiced, although the system was not yet uniformly optimized.

Digital infrastructure and accessibility obtained the lowest domain mean ($M = 3.50$). The gap between communication use and infrastructure quality indicates that personnel were actively using digital tools despite inconsistent connectivity, equipment limitations, and uneven access. This pattern is consistent with Philippine studies showing that schools often adopt online systems before infrastructure and technical support are fully adequate (Andaya et al., 2025; Daradar & Atutubo, 2023). Sustainability and innovation also ranked comparatively low, emphasizing the need for documented procedures, stable funding, equipment maintenance, and succession mechanisms.

Differences in E-Governance Assessments

Table 3. *ANOVA results for differences among respondent groups*

E-Governance Dimension	F	Decision at $\alpha = .05$
Digital record-keeping and automation	21.90	Significant; reject H_0
Online communication and collaboration platforms	7.09	Significant; reject H_0
Stakeholder engagement and participation	17.30	Significant; reject H_0
Digital infrastructure and accessibility	259.30	Significant; reject H_0
Capacity building and digital literacy	273.20	Significant; reject H_0
Sustainability and innovation	312.10	Significant; reject H_0
Monitoring and evaluation	290.20	Significant; reject H_0

The assessments of principals, department heads, and teachers differed significantly across all seven dimensions. The largest F-values occurred in sustainability and innovation ($F = 312.10$), monitoring and evaluation ($F = 290.20$), capacity building and digital literacy ($F = 273.20$), and digital infrastructure and accessibility ($F = 259.30$). Principals generally provided higher ratings than teachers, especially in areas involving infrastructure, training, and program continuity.

These differences reveal a hierarchical perception gap. Administrators may assess systems based on policies, approved resources, and intended implementation, while teachers experience the reliability, accessibility, workload, and day-to-day usability of those systems. Digital transformation efforts should therefore include common performance standards, transparent monitoring results, and structured consultation across roles. Role-sensitive capacity building is also necessary because personnel vary in responsibilities, prior experience, and level of technical confidence.

Organizational Agility

Table 4. *Summary assessment of organizational agility*

Organizational-Agility Dimension	Composite Mean	Interpretation	Rank
ICT integration and digital competence	4.14	Evident	1
Continuous learning and motivation	4.10	Evident	2
Teachers' empowerment and collaboration	3.98	Evident	3
Decision-making and responsiveness	3.97	Evident	4
Leadership adaptability	3.92	Evident	5
Overall weighted mean	4.02	Evident	

Organizational agility was Evident ($M = 4.02$). ICT integration and digital competence ranked first ($M = 4.14$), followed by continuous learning and motivation ($M = 4.10$). These results show that technology was already integrated into administrative and instructional functions and that personnel generally demonstrated openness to professional growth and new tools.

Leadership adaptability ranked lowest ($M = 3.92$), while decision-making and responsiveness obtained $M = 3.97$. Although both remained Evident, the lower scores suggest that policies, authority structures, and operational procedures may not always permit rapid adjustment. Organizational agility requires leaders to combine clear accountability with flexible procedures, delegation, and timely access to reliable information (Janssen & van der Voort, 2020; Žitkienė & Deksnys, 2018).

Relationship between E-Governance and Organizational Agility

Table 5. *Relationships between e-governance and organizational-agility dimensions*

Organizational-Agility Dimension	r	p	Interpretation	Decision
Leadership adaptability	.87	.001	Very strong positive	Reject H_0
Teachers' empowerment and collaboration	.84	.001	Strong positive	Reject H_0
ICT integration and digital competence	.63	.001	Moderate positive	Reject H_0
Decision-making and responsiveness	.58	.001	Moderate positive	Reject H_0
Continuous learning and motivation	.52	.001	Moderate positive	Reject H_0

All five relationships were positive and statistically significant. E-governance had a very strong positive relationship with leadership adaptability ($r = .87$) and a strong positive relationship with teachers' empowerment and collaboration ($r = .84$). Moderate positive relationships were found with ICT integration and digital competence ($r = .63$), decision-making and responsiveness ($r = .58$), and continuous learning and motivation ($r = .52$).

The findings demonstrate that e-governance is not merely an administrative support system. Digital records, communication platforms, stakeholder channels, infrastructure, training, innovation, and monitoring are closely associated with how quickly schools adapt, share authority, use ICT, decide, and learn. The strongest association with leadership adaptability indicates that timely data and integrated systems help leaders respond to policy changes and operational disruptions. The relationship with teacher empowerment further suggests that digital platforms become most valuable when they support participation rather than only transmitting directives.

Because the research was correlational, the results establish association rather than causation. Nevertheless, the consistency and magnitude of the coefficients provide a strong empirical basis for an intervention that develops technological systems and organizational practices together. This aligns with research showing that digital transformation improves resilience when supported by organizational learning and innovation (Awad & Martín-Rojas, 2024).

Challenges Encountered

Table 6. *Summary and highest-ranked challenges*

Area	Challenge/Measure	Mean	Interpretation
E-governance	Unstable internet connectivity	3.86	Encountered
E-governance	Online meetings disrupted by poor connectivity	3.80	Encountered
E-governance	Limited access to reliable devices among stakeholders	3.76	Encountered
Organizational agility	Insufficient ICT resources and outdated equipment	3.64	Encountered
Organizational agility	Inadequate training on new digital applications	3.63	Encountered
Organizational agility	Limited feedback mechanisms	3.62	Encountered
Overall e-governance challenges	Composite mean	3.70	Encountered
Overall organizational-agility challenges	Composite mean	3.59	Encountered
Combined challenges	Grand composite mean	3.65	Encountered

The consolidated challenge mean was 3.65. E-governance challenges obtained $M = 3.70$, while organizational-agility challenges obtained $M = 3.59$. Using the scale stated in the source instrument, both values fall within the Encountered range. The source abstract described the e-governance value as Highly Encountered; the table above follows the manuscript's stated 3.40–4.19 interpretation range for consistency.

Unstable internet connectivity was the highest e-governance concern ($M = 3.86$), followed by disruption of online meetings and unequal device access. Within organizational agility, insufficient ICT resources ($M = 3.64$), inadequate training ($M = 3.63$), and limited feedback mechanisms ($M = 3.62$) were most prominent. These findings confirm that agility is constrained when technology is unreliable and when personnel lack the tools, skills, and feedback channels needed to respond quickly.

The challenge pattern also explains why administrators rated some domains more positively than teachers. Policies and platforms may exist, yet their functionality varies across locations and users. Improvement should therefore focus on service reliability, preventive maintenance, standardized templates, secure backups, user support, and continuity procedures rather than introducing additional platforms without strengthening the underlying system.

Acceptability of the Continuous Improvement Program

Table 7. *Acceptability of the proposed Continuous Improvement Program*

Program Criterion	Composite Mean	Interpretation	Rank
Identifies weaknesses in e-governance and organizational agility	4.36	Highly Acceptable	1
Provides comprehensive knowledge for corrective actions	4.33	Highly Acceptable	2
Practical for adoption and implementation	4.31	Highly Acceptable	3
Guides policy development and enhancement	4.29	Highly Acceptable	4
Provides completeness of facts	4.26	Highly Acceptable	5
Overall weighted mean	4.31	Highly Acceptable	

The program was Highly Acceptable ($M = 4.31$). Its strongest criterion was its usefulness in identifying weaknesses in e-governance and organizational agility ($M = 4.36$), followed by the provision of comprehensive knowledge for corrective action ($M = 4.33$). The high ratings for practicality and policy guidance indicate that respondents considered the program relevant to actual school conditions.

The intervention was designed to address both technological and organizational needs. Its projects include secure and standardized digital records, connectivity and equipment upgrades, staff coaching, inclusive stakeholder communication, rapid feedback, adaptive leadership, transparent monitoring, and personnel-transition

procedures. This integrated approach is consistent with continuous-improvement principles because it links diagnosed needs, activities, responsibilities, and measurable indicators.

CONCLUSION

School leaders in the selected public junior high schools had established an evident e-governance system, particularly through online communication and collaboration platforms. However, the system had not reached a uniformly mature level because infrastructure, accessibility, sustainability, digital capability, and monitoring were experienced differently across organizational roles. The significant differences among principals, department heads, and teachers indicate that strategic implementation and daily operational experience were not always aligned.

The schools also demonstrated an evident level of organizational agility, with strengths in ICT integration and continuous learning. Leadership adaptability and responsive decision-making remained comparatively weaker. The significant positive relationships across all dimensions confirm that stronger e-governance is associated with more adaptable leaders, empowered teachers, better ICT use, faster decisions, and sustained professional motivation.

The major constraints were unstable connectivity, outdated or insufficient equipment, uneven digital skills, weak feedback mechanisms, inconsistent records practices, and limited continuity when key personnel changed. The study contributes a school-based explanation of how digital governance and organizational agility reinforce one another and provides an empirical foundation for a Continuous Improvement Program that addresses infrastructure, people, policy, and institutional learning as an integrated system.

Recommendation

School heads and division administrators should prioritize reliable connectivity, equipment maintenance, secure cloud-based records, standardized templates, and automated backup systems. Technology investments should be supported by preventive-maintenance schedules, technical audits, data-privacy controls, and clear resource-allocation plans.

Principals and department heads should institutionalize differentiated digital-capacity programs, peer mentoring, help hours, and learning-action-cell sessions. Teachers should be involved in system selection, implementation review, and school decision-making so that digital workflows reflect classroom realities. Monitoring results and stakeholder feedback should be shared transparently and converted into documented corrective actions.

The proposed Continuous Improvement Program should be adopted in phases, aligned with the School Improvement Plan and available resources, and evaluated using baseline and follow-up indicators. Future studies should validate the program in other divisions, include learners, parents, non-teaching personnel, and supervisors, and use longitudinal or mixed-methods designs to examine how improvements in e-governance influence organizational performance over time.

Table 8. *Condensed Continuous Improvement Program*

Project	Focus	Core Strategies	Expected Result
PROJECT SAFE	Secure Automation and File Efficiency for School Governance	Standardize templates, centralized cloud storage, scheduled backups, data-privacy orientation	Secure and retrievable records; reduced reporting confusion
PROJECT BATT	Broadband Access and Technical Tenacity	Bandwidth assessment, mesh Wi-Fi, signal boosters, dual-provider failover, technical audits	Stable connectivity in offices and faculty rooms
PROJECT REBOOT	Revitalizing Equipment for Better Operational Output and Technology	Repair and upgrade computers, borrowing station, maintenance logs, community donations	Functional and accessible ICT equipment

PROJECT CLICK	Competency in Learning Innovations and Core Knowledge	Digital-literacy training, INSET integration, coaching, peer mentoring, skills checks	Improved staff confidence and digital competence
PROJECT MAPA	Mobilizing Access for Parental Awareness	SMS alerts, digital access corners, shared devices, multi-channel information dissemination	More inclusive parent and community access
PROJECT BATMAN	Building Adaptive Techniques for Management and Agility Networks	Risk assessment, contingency plans, strategic reviews, digital continuity protocols	Faster and more resilient leadership response
PROJECT EMJI	Empowering Management for Just and Informed Decisions	Transparency dashboards, digital stakeholder input, delegated decisions, issue tracking	Timelier and more inclusive decisions
PROJECT ECHO	Enhancing Compliance through Holistic Output	Digital monitoring dashboard, quarterly QAME sessions, action calendar, feedback-to-action log	Monitoring evidence translated into improvements
PROJECT TULOY	Transforming Uninterrupted Leadership and Operational Yield	Handover lists, documented procedures, shadow personnel, transition orientation	Digital programs continue during personnel changes

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