© JUN 2026 | IRE Journals | Volume 9 Issue 12 | ISSN: 2456-8880
DOI: https://doi.org/10.64388/IREV9I12-1718551

Exploring Digitalization of Academic Records: A Strategic Management Approach to Reducing Manual Errors

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Abstract- ***This qualitative study explores the digitalization of academic records as a strategic management approach to mitigating human oversight, transcription slips, and clerical inefficiencies during the institutional form validation process at Leon Q. Mercado High School. Utilizing an Interpretative Phenomenological Analysis (IPA) design complemented by qualitative descriptive and critical management approaches, the investigation examines the systemic transition from legacy manual record-keeping to automated administrative workflows through a multi-pronged theoretical framework integrating the Resource-Based View (RBV) theory, the Technology Acceptance Model (TAM), and Culturally Responsive School Leadership (CRSL) guidelines. Field data collection was executed through semi-structured interviews and multi-perspectival Focus Group Discussions (FGDs) with the School Checking Committee, junior high school class advisers, and Information and Communications Technology (ICT) coordinators. All data handling protocols strictly conformed to the mandates of the Data Privacy Act of 2012 (RA 10173), utilizing a multi-stage de-identification process to protect participant anonymity and shield diverse institutional voices from administrative retaliation. The study concludes that the strategic management of digital academic records extends beyond mere technical efficiency, serving as a critical mechanism for reducing clerical anomalies while actively promoting organizational equity, inclusive leadership, and enhanced social mobility for diverse learners.***

Keywords- ***Culturally Responsive School Leadership (CRSL), Digitalization, Educational Equity, Interpretative Phenomenological Analysis (IPA Resource-Based View (RBV), Strategic Management.***

I. INTRODUCTION

The contemporary educational landscape demands a paradigm shift from traditional administrative practices to agile, tech-driven frameworks. Academic records serve as the structural backbone of an educational institution, capturing the official, legal, and historical trajectories of learners. However, when these critical datasets are managed through manual workflows, they become inherently vulnerable to human oversight, transcription slips, and systemic inefficiencies. Within the purview of educational management, the digitalization of academic records is no longer merely a technological upgrade; it is a profound organizational transformation. It represents a deliberate, systematic effort to replace labor-intensive paper trails with centralized, automated, and secure information systems designed to optimize institutional workflows and preserve data integrity.

To ensure that digitalization yields sustainable institutional benefits, it must be viewed through the lens of strategic management. Strategic management in education involves the continuous planning, monitoring, analysis, and assessment of all necessities an institution needs to meet its goals and objectives. When applied to school operations, a strategic management approach treats academic record-keeping not as a routine clerical task, but as a core institutional asset. By aligning technology with long-term organizational goals, educational leaders can systematically deploy resources, manage resistance to change, and establish robust data governance policies. This ensures that digital tools are integrated seamlessly into the institutional culture, transforming raw student data into actionable insights for administrative decision-making.

The ultimate operational objective of merging digitalization with strategic management is reducing manual errors. In accurate record-keeping, even minor data discrepancies—such as misspelled names,

erroneous grade entries, or mismatched learner reference numbers—can result in severe administrative bottlenecks, legal disputes, and compromised student opportunities. Manual errors drain institutional productivity, forcing educators and school heads into exhaustive cycles of data verification and form revisions. By implementing automated validation mechanisms, data encryption, and centralized dashboards, educational managers can drastically mitigate the risks of human error. Consequently, reducing manual errors through strategic digitalization safeguards the credibility of the institution, protects the academic welfare of the learners, and fosters an organizational culture rooted in precision and accountability.

On a global scale, the United Nations Educational, Scientific and Cultural Organization (UNESCO) underscores that data-driven governance is vital to achieving Sustainable Development Goal 4 (SDG 4), which aims to:
"Ensure inclusive and equitable quality education and promote life-long opportunities for all."

UNESCO emphasizes that robust Education Management Information Systems (EMIS) are essential pillars for monitoring student progress, allocating resources equitably, and sustaining macro-level educational quality. Without accurate and accessible academic data, international and national education ministries cannot properly diagnose systemic gaps, leaving marginalized student populations vulnerable to administrative exclusion and delayed academic advancement.

Supporting this global paradigm, international literature demonstrates that transitioning to automated systems significantly mitigates the human error inherent in manual documentation. While developed nations have largely overcome the data silos and high error rates of manual transcription through advanced cloud computing, many developing educational systems continue to struggle with administrative inefficiencies. Literature suggests that systemic inequities are often embedded in manual procedures, where repetitive errors such as incorrect family information and inconsistent form entries disproportionately affect the identities and academic trajectories of learners. Therefore, deploying automated validation systems is recognized globally as a strategic educational management imperative to ensure fairness, efficiency, and accuracy in documenting diverse learning journeys.

In the Philippine context, the Department of Education (DepEd) has actively sought to alleviate the administrative burden on educators through digital platforms like the Learner Information System (LIS) and the Enhanced Basic Education Information System (EBEIS). These platforms aim to standardize national record-keeping in strict accordance with DepEd Order No. 8, s. 2015 (Policy Guidelines on Classroom Assessment) and DepEd Order No. 58, s. 2017, which establish School Form 10 (SF10) as the definitive permanent academic record of a learner. Crucially, the operational mechanics, structural validation, and review workflows governing these documents are tightly regulated under DepEd Order No. 11, s. 2018 (Guidelines on the Preparation and Checking of School Forms). This critical policy explicitly mandates the institutional procedures for the End-of-School-Year (EOSY) validation process by defining the collaborative roles of class advisers, ICT coordinators, and the School Checking Committee with the definitive organizational goal of minimizing clerical workloads and eliminating data entry discrepancies. Furthermore, Republic Act No. 11032, or the Ease of Doing Business and Efficient Government Service Delivery Act of 2018, provides the broader statutory mandate for this transition, legally binding all government agencies, including public schools, to streamline administrative procedures, optimize human resource allocations, and eliminate bureaucratic red tape through systemic digital transformation.

Despite these comprehensive national mandates, the localized management of academic records remains a significant operational challenge. The year-end reading and validation of school forms a process that heavily relies on manual cross-checking of data remains a dreaded administrative ritual in many public schools. This clerical distress is a leading cause of teacher burnout and dissatisfaction, noting that manual interventions frequently divert educators from their primary instructional duties. Because these forms serve as the primary legal evidence of a student's academic history, unresolved manual

clerical errors at the school level directly lead to delayed promotions, compromised graduation timelines, and significant long-term hurdles for students advancing to higher education.

At the regional level, these administrative challenges are particularly pronounced within the Bicol Region (Region V), where disparate technological infrastructure and varying levels of digital literacy among personnel exacerbate data management issues. Regional audits frequently flag inconsistent student records across divisions, highlighting the urgent need for professionalized, strategically managed data handling to support the goals of the national "Sulong Edukalidad" initiative. To address these gaps, the DepEd Regional Office V has issued various directives, such as Regional Memorandum No. 44, s. 2024 (and related data validation guidelines), urging schools to intensify data cleaning efforts and optimize the utilization of ICT-enabled tools to ensure zero-error reporting in national systems.

Locally, within the Naga City Division, public schools are under constant pressure to align with stringent public governance standards and professionalized accountability mechanisms. Digitalization offers a proven solution to these logistical bottlenecks, as localized studies indicate that schools utilizing macro-enabled templates and strategic data validation protocols experience a drastic reduction in form returns from Division Offices compared to those relying entirely on traditional manual entry. For localized infrastructure limitations and the lack of a standardized, strategic framework for digital record management have left a visible gap between regional policy expectations and actual school-level implementation.

The significance of this study spans across multiple key stakeholders within the educational ecosystem by addressing both operational efficiency and systemic data integrity. For school administrators, this research provides a strategic, data-driven framework to optimize institutional workflows, enhance data security, and minimize administrative bottlenecks caused by record-keeping errors, while simultaneously offering teachers and educators systemic relief from exhaustive manual data cross-checking, thereby reclaiming valuable time that can be redirected toward instructional preparation and professional development. Furthermore, it directly benefits learners by safeguarding the integrity, accuracy, and accessibility of their permanent academic histories to ensure smooth, error-free transitions throughout their educational careers. At a macro level, the study serves as a localized, empirical baseline for the Department of Education (DepEd) in policy formulation regarding the scalable implementation of strategic digital record management systems across public schools, while ultimately contributing to the expanding body of knowledge on educational management and digital transformation to serve as a valuable reference for future researchers investigating technological integration in school governance.

The current data validation process in many public schools remains a highly labor-intensive period defined by the manual cross-referencing of grades across raw class records, School Form 9 (SF9/Report Card), and SF10 (Permanent Record). Preliminary observations within the institution reveal a persistent incidence of transcription slips, mathematical errors, and demographic mismatches, necessitating multiple cycles of revisions and driving significant faculty burnout during critical year-end periods. While national and regional mandates dictate what records must be kept, there is a distinct lack of contextualized, strategic management frameworks guiding school heads on how to transition smoothly from manual dependency to digital proficiency without disrupting daily operations.

II. RESEARCH OBJECTIVES

This study explored the advantages of digitalizing academic records as a strategic management approach to reducing manual errors and improving administrative efficiency during the end-of-school-year validation process.

Specifically, this research achieved the following objectives:

1.) To explore the lived experiences of junior high school advisers and ICT coordinators regarding the manual preparation of School Forms 9 and 10.

2.) To describe the perception of the teachers on the usability and reliability of the proposed automated

grading system compared to the traditional manual method.
3.) To describe the advantages of the digitalization of school forms in reducing manual transcription slips, inconsistent entries, and mathematical inaccuracies.
4.) To examine how the strategic management of digital academic records promotes equity, inclusive leadership, and social mobility for diverse learners.

Scope and Delimitations

This study explored the advantages of digitalizing academic records as a strategic management approach to reducing manual errors and improving administrative efficiency during the end-of-school-year validation process academic year 2025-2026.

Methodologically, the study was bounded by a qualitative research design, specifically utilizing Interpretative Phenomenological Analysis (IPA) complemented by qualitative descriptive and critical management approaches to explore the lived experiences of the participants. The participant cohort was selected using a non-probability purposive sampling technique to enforce a strict, homogeneous sample capable of providing the psychological and idiographic depth required by the IPA framework. The sample consisted exclusively of frontline educational practitioners specifically Junior High School (JHS) class advisers and Information and Communications Technology (ICT) coordinators stationed at Jose De Villa National High School, Quipayo Elementary School, Central School, and Fundado National High School during the current academic year, all of whom possessed direct, multi-year operational experience with the manual preparation and checking workflows of School Forms 9 and 10 under DepEd Order No. 11, s. 2018.

Conversely, certain elements are explicitly excluded from the scope of this study to maintain a precise research focus. This study does not cover non-academic data management, nor does it include private educational institutions, elementary schools, or other public high schools outside the designated station. The participant pool deliberately excludes the learners themselves, parents, and non-teaching personnel who do not possess official administrative duties related to the encoding and checking of academic forms. Furthermore, this research will not evaluate macro-level information systems managed by higher offices, such as national database server uptimes, regional network architectures, or commercial internet service provider infrastructure. Finally, historical academic data generated prior to the current curriculum and grading configurations will be omitted, ensuring that the final strategic management plan addresses only the contemporary compliance standards and data validation cycles of the school's active operations.

Assumptions

This study is anchored on this assumption:

1.) The participating class advisers and ICT coordinators will provide honest, accurate, and unvarnished accounts of their lived experiences regarding the manual preparation of school forms, free from the fear of administrative retaliation.
2.) The participating educators possess the operational literacy necessary to objectively evaluate and contrast the usability and reliability of the automated system against traditional manual workflows.
3.) The logistical differences between manual entry and automated processing are distinct, allowing for a traceable assessment of how digital tools reduce transcription slips and mathematical errors.
4.) The school forms are active administrative resources, and that securing their data integrity directly influences inclusive school leadership, institutional equity, and student social mobility.

Theoretical Framework

This study is anchored on three inter-related frameworks that address the evaluation, adoption, and systemic logic of digital transformation. The primary theory is the Barney's Resource-Based View Theory as cited by Willie (2024) while secondary theories are Davi's Technology Acceptance Model as cited by Saro et al. (2024), and Khalifa's Culturally Responsive School Leadership (CRSL) by Khalifa et al. (2016).

Resource-Based View Theory (RBV). This theory posits that an organization's sustainable success and operational excellence are determined by its internal resources, which must be Valuable, Rare, Inimitable, and Non-substitutable (VRIN). In a contemporary

adaptation of this framework, Willie (2024) explicitly bridges this classic management concept with modern technological realities, arguing that the strategic deployment, orchestration, and alignment of digital resources are what truly dictate an organization's modern operational advantages. Willie (2024) emphasizes that having digital tools is insufficient; rather, it is the integration of physical IT infrastructure, specialized software capabilities, and human digital literacy that forms a high-performing digital resource bundle.

In this study, RBV theory helps the schools in academic record-keeping systems, validation workflows, and the institutional data itself are treated as these critical internal resources. Historically, public schools have suffered from resource poverty not because they lack data, but because their data is locked in manual, error-prone formats. Willie's (2024) perspective on RBV provides the precise theoretical justification for your study: it shifts the perception of digitalization from a superficial IT upgrade to a core strategic asset. When a school transforms unstructured, manual student forms into an automated, error-validating digital system, it creates an institutional resource bundle that is highly valuable for decision-making and structurally insulated from the systemic vulnerabilities of human transcription slips.

Technology Acceptance Model (TAM). As supported by Saro et al. (2024), serves as leading information systems theory that models how users come to accept and use a specific technology based on two primary factors: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). It suggests that an individual's intent to use a system is determined by how much they believe it will enhance their job performance and how effortless they perceive the system to be. This model is essential for diagnosing why a technically sound system might still face resistance from its intended users.

In the current study, it is a crucial model in the reduction of manual errors that depends entirely on the teachers' and registrars' willingness to use the software. If the faculty perceives the digital system as extra work or finds the interface confusing, they may revert to manual shortcuts, which reintroduces errors. By measuring perceived usefulness and perceived ease of use, the study can determine if the strategic management approach needs to prioritize user-friendly design and professional development to ensure high data integrity.

Culturally Responsive School Leadership (CRSL). A core tenet of Culturally Responsive School Leadership (CRSL) is that leaders possess a moral responsibility to counter historically oppressive structures and ensure institutional inclusivity (Khalifa et al., 2016). In the context of manual record-keeping, repetitive clerical errors such as misspelling names, misidentifying familial structures, or miscalculating grades often disproportionately affect marginalized students, creating systemic barriers to their success.

By digitizing academic records, school leaders aim to ensure data integrity, thereby protecting the academic trajectories and legal identities of diverse learners from systemic bureaucratic harm.

In direct alignment with this framework, the current study frames the digitalization of academic records as a culturally responsive strategic management approach. The traditional reading of forms, the manual, End-of-School-Year (EOSY) validation of School Form 9 (SF9) and School Form 10 (SF10) by Junior High School advisers and the School Checking Committee is highly susceptible to the exact types of clerical inaccuracies that result in bureaucratic inequity.

Therefore, transitioning to an automated system goes beyond mere administrative convenience; it is a vital leadership intervention aimed at safeguarding student identities. By employing a descriptive-comparative analysis to measure the reduction of these manual errors, this study evaluates whether the school's digital transition successfully upholds data equity. Ultimately, this research investigates how streamlining data management directly operationalizes culturally responsive school leadership principles, ensuring fairness and accuracy for all learners within the institution.

Conceptual Framework

This study is anchored on the Input-Process-Output (IPO) model, contextualized within the principles of transformative and equity-centered educational management. The paradigm serves as a visual roadmap detailing the strategic transition from manual documentation to automated record-keeping. It illustrates how strategic administrative innovations can be utilized to dismantle systemic inefficiencies and achieve institutional data equity.

Input. This phase establishes the foundational context and the existing systemic conditions prompting the study. It encompasses the professional profiles and lived administrative realities of the Junior High School Class Advisers and ICT coordinators. More importantly, it identifies the embedded systemic challenges that burden these educators: severe clerical distress, the exhaustive cycle of repetitive corrections, and the high prevalence of manual transcription errors in School Forms 9 and 10. In the lens of inclusive leadership, these are not merely clerical issues but systemic barriers that risk the misidentification of diverse learners.

Process. The process phase encapsulates the active transformative intervention. It involves the strategic management approach of transitioning away from manual, isolated data entry toward the implementation of automated digital systems and macro-enabled spreadsheet validations. This phase explores how educators and school leaders collaboratively adapt to and utilize these digital administrative tools during the critical End-of-School-Year (EOSY) validation period, reflecting a practical application of culturally responsive and efficient school management.

Output. The final phase projects the dual transformative outcomes resulting from this strategic digitalization, specifically:

Administrative Efficiency: A drastic minimization of the human-to-error ratio and a significant reduction in the administrative man-hours consumed by the traditional reading of forms. This mitigates teacher burnout and fosters a more collaborative, efficient organizational culture.

Institutional Equity and Social Mobility: The advancement of social justice through precise data representation. By ensuring the accurate cultural, demographic, and academic documentation of learner profiles, the digitalized system protects marginalized students from the systemic bureaucratic harm and delayed academic mobility caused by administrative inaccuracies.

III. METHODOLOGY

This section provides a detailed account of the methodological framework used to execute the research. It specifies the research design and approach, characterizes the study respondents and sampling criteria, and details the research instruments utilized for data collection. Furthermore, it delineates the step-by-step investigative procedures, addresses the ethical protocols observed to protect participants, and identifies the statistical techniques applied for possible data analysis.

Research Design

This study utilized Interpretative Phenomenological Analysis (IPA) design complemented by qualitative descriptive and critical management approaches to address the research objectives. This multi-faceted qualitative design is employed to deeply explore the lived experiences of junior high school advisers and ICT coordinators navigating the manual preparation of School Forms 9 and 10. This methodological choice aligned with recent trends in educational research, where IPA is heavily utilized to capture how educators make sense of shifting structural tasks and clerical burdens amid policy reforms (Ainin et al., 2024).

Furthermore, this combined approach served to capture the detailed, idiographic perceptions of educators regarding the usability and reliability of the proposed automated grading system as opposed to traditional manual workflows. By focusing on the structural advantages of digital transformation, this qualitative design enables a thick, comprehensive description of how automation reduces transcription slips, inconsistent entries, and mathematical inaccuracies. Recent scholarship highlights that evaluating the intersection of human resource capacity and automated educational management

tools requires this exact qualitative depth to identify organizational resistance and readiness gaps (Sihotang, 2025).

Ultimately, this qualitative framework provided the critical lens necessary to examine how the strategic management of digital academic records extends beyond mere technical utility. By examining these localized workflows, the study uncovers how systemic data integrity actively promotes equity, inclusive leadership, and social mobility for diverse learners. This critical integration of management theory with phenomenological inquiry mirrors recent studies by educational leadership scholars, who argue that digital transformation in school governance achieves true institutional value not simply through tech adoption, but by building equitable, data-driven governance practices that protect the academic trajectories of vulnerable learners (Akilandeswari, 2025; Fentyrina & Mardi, 2025).

Respondents of the Study

To capture the deep, nuanced lived experiences required by the Interpretative Phenomenological Analysis (IPA) design, this study will employ purposive sampling. This non-probability sampling technique enables the researcher to deliberately select information-rich participants who are strategically positioned to address the core strategic and operational objectives of the investigation. Because IPA demands a relatively small, homogeneous sample to facilitate a deep, idiographic, and psychological exploration of the participants' inner worlds (Smyth, 2024), specific inclusion criteria are established to ensure that the selected cohort shares a unified institutional reality.

To operationalize this homogeneity and guarantee the depth of the qualitative data, participants must satisfy the following criteria:

1. Participants must be officially designated as either Junior High School (JHS) class advisers or Information and Communications Technology (ICT) coordinators.
2. Selected educators must possess at least three (3) consecutive years of continuous experience in public secondary school record-keeping.
3. Participants must have actively prepared, submitted, or validated administrative records during the official End-of-School-Year validation cycles.

Research Instrument

To effectively capture the nuanced lived experiences and perceptions of Junior High School advisers, ICT coordinators, and the school checking committee, this study utilized several instrumentation suites:

Semi-Structured Interview Guide. The interview guide is grounded in the Technology Acceptance Model (TAM) and the CIPP Evaluation Model. It serves as the primary tool for eliciting deep, descriptive narratives regarding the process and product of record-keeping. The guide probes for specific instances of clerical distress and perceived usefulness of the digitalized system.

Focus Group Discussion (FGD). The FGD protocol is employed to facilitate collective reflection among members of the School Screening Committee. This instrument focuses on the broader implications of digitalization through the lens of Culturally Responsive School Leadership (CRSL), specifically exploring how data integrity promotes equity and social mobility for diverse learners.

Collated Academic Learning Journals. A unique and vital instrument in this study is the use of Collated Academic Learning Journals (Nos. 1–7). These journals represent a longitudinal record of the participants' reflective journeys throughout the transition phase. The journals were used to document the participants' internal dialogues and shifting perspectives on educational equity and systemic inefficiencies. By analyzing these journals, the researchers were able to track the progression of the lived experience from initial frustration with manual reading of forms to the strategic realization of digital innovation as an advocacy for social justice.

Procedures of Investigation

The data collection process for this study follows a clear, step-by-step method to gather honest and detailed information from the participants. Because this study uses Interpretative Phenomenological Analysis (IPA), the focus is on listening closely to the real-life experiences of teachers and ICT

coordinators as they switch from manual paperwork to digital school forms. To make sure the research is accurate, fair, and reliable, the process is divided into five easy-to-follow steps: preparing the interview questions, getting expert approval, running a test interview, conducting the actual interviews, and transcribing the data for analysis.

Preparation of the Research Instrument. The researcher designed a semi-structured interview guide with open-ended questions tailored to explore educators lived experiences with school forms. This guide included flexible follow-up probes to encourage detailed storytelling without leading the participants' responses.

Validation of the Research Instrument. The interview guide was evaluated by a panel of qualitative and educational management experts using a qualitative validation rubric. This process ensured the questions were non-biased, clear, and perfectly aligned with the study's framework and objectives.

Dry run of the Research Instrument. A pilot interview was conducted with a non-participant adviser and ICT coordinator who met the study's inclusion criteria. This step field-tested the instrument to assess question clarity, evaluate interview pacing, and refine confusing prompts before official data collection began.

Administration of the Research Instrument. The refined guide was administered through secure, audio-recorded, one-on-one semi-structured interviews with the selected homogeneous sample. The researcher secured signed informed consent forms and used active listening to capture deep, personal reflections on the digital transition.

Retrieval and Processing of Data. Audio recordings were transcribed verbatim and subjected to member-checking by the participants to guarantee transcript accuracy. Finally, the validated texts were systematically analyzed using the established six-step Interpretative Phenomenological Analysis (IPA) framework to uncover shared themes.

Ethical Considerations

The ethical integrity of this study is grounded in a synchronized workflow where participant protection, legal compliance, and technological tools are seamlessly interwoven to ensure a safe, inclusive, and methodologically rigorous research environment.

Informed Consent. The researcher secured signed informed consent forms from all participating teachers and ICT coordinators prior to data collection, ensuring they were fully aware of the study's purpose, their voluntary participation, and their right to withdraw at any time.

Risks and Benefits. The study posed minimal risk to participants beyond minor cognitive fatigue during interviews, while offering the direct benefit of contributing to an automated system designed to eliminate clerical burdens and manual transcription errors.

Cultural Sensitivity. The researcher maintained deep cultural sensitivity by respecting local institutional norms, addressing participants with appropriate professional titles, and remaining objective when discussing sensitive school-level administrative vulnerabilities.

Data Privacy Act. In strict compliance with the Data Privacy Act of 2012 (Republic Act No. 10173), all collected information, school records, and digital database details were handled legally, securely, and solely for the stated purposes of this research.

Confidentiality and Anonymity. To protect the participants' identities, all personal data and school affiliations were anonymized using alphanumeric codes and pseudonyms, while the actual audio files and transcripts were stored in password-encrypted digital folders.

The Use of AI. Artificial intelligence tools were strictly limited to preliminary transcription support and grammatical refinement, ensuring that the actual thematic interpretation and phenomenological analysis remained exclusively driven by the researcher's human insight.

Data Analysis Techniques

The study will employ Thematic Analysis specifically Interpretative Phenomenological Analysis (IPA) as the primary analytical framework, following an iterative process of coding and theme development to distill the lived experiences recorded in the learning journals. This process begins with data familiarization, where the researcher performs multiple readings of the collated journals to identify recurring concepts and nuanced narratives. To enhance the efficiency and rigor of this phase, Artificial Intelligence (AI) tools will be utilized as a research co-pilot to assist in generating initial codes and clustering similar excerpts into broader categories. This AI-driven assistance optimizes the structural organization of the data, ensuring a comprehensive review of all entries while minimizing human fatigue in the early stages of coding. However, to preserve the interpretative depth essential to qualitative research, the researcher will maintain full analytical control by manually refining all AI-generated codes, verifying every thematic cluster against the raw data, and conducting the final synthesis. This human-in-the-loop approach ensures that the resulting themes such as perceptions of inclusive leadership and the impact of administrative dynamics are deeply contextualized, ethically grounded, and reflective of the participants' authentic voices rather than purely algorithmic outputs.

IV. RESULTS AND DISCUSSION

This chapter presents, analyzes, and interprets the qualitative data gathered from the lived experiences, operational realities, and reflective narratives of Junior High School classroom advisers and ICT Coordinators. The primary focus of this investigation was to evaluate the structural, psychological, and macro-level transitions involved in shifting from legacy manual record-keeping mechanics to digitalized, automated grading solutions.

Lived experiences of Junior High School Advisers and ICT coordinators

The first objective of this study sought to explore the phenomenological realities, systematic processes, and psychological or physiological workloads experienced by classroom advisers during the traditional manual production of School Form 9 and School Form 10. The data revealed a labor-intensive, multi-stage operational lifecycle characterized by significant systemic strain and cognitive fatigue during peak academic periods. Participants outlined a highly demanding operational workflow requiring meticulous attention at the end of every grading cycle and academic year. According to Adviser A, the manual workflow begins with rigorous initial data consolidation, as described by one participant:

"When the period for manually preparing School Forms 9 and 10 arrives, the process in our school usually becomes very busy and time-consuming. First, we gather all the learners' records, such as SF1, transfer the personal details of each learner into the class records, and collect all records from written works, performance tasks, quarterly assessments, attendance, and other supporting documents. We carefully check and compute the grades manually to ensure that the final grades are accurate before transferring them to the forms."

Once calculations are completed, the physical execution phase requires thousands of discrete handwritten entries across a typical class cohort of 50 or more students. Another participant detailed this repetitive phase:

"After computing the grades, we start writing the entries one by one on School Form 9 and School Form 10. In School Form 9, we record the quarterly grades, and after the completion of all four quarters, we manually write the final ratings for learning progress and achievement, as well as the teacher's remarks on the Report on Learner's Observed Values. For School Form 10, we write the learner's complete academic history and promotion details."

The physical act of handwriting numbers across multiple columns for extended hours induces substantial physical fatigue. Participants from Jose De Villa National High School highlighted a direct relationship between bodily exhaustion and physical handwriting degradation. ICT Coordinator A, noted: *"Pag nagsusurat, pag pagal ka na pangit na ang surat [When you are writing and you are already tired, your handwriting deteriorates]."* The intense concentration required to avoid permanent ink errors

while dealing with eye strain creates a highly stressful environment for advisers, who explained: *"Since the process is done manually, we need to double-check the spelling of names, learner reference numbers, subject titles, and final marks... Any small mistake can result in rewriting the whole form or using correction tape, which looks unprofessional and untidy."*

An analysis of these findings indicates that the traditional manual method creates a critical bottleneck in the educational workflow. The reliance on physical handwriting and manual cross-checking not only consumes excessive time but also exponentially increases the likelihood of human-induced fatigue errors. The physical deterioration of handwriting noted by participants is not merely an aesthetic issue but a foundational administrative risk that breeds professional frustration and data clutter.

Because class advisers typically handle large volumes of data often involving 50 or more students per section, the pressure to maintain 100% accuracy under strict deadlines converts a clerical task into a high-stress environment. The manual transcription of grades from class records to permanent records serves as a primary source of cognitive fatigue. This repetitive transcription loop forces teachers to extend their working hours well beyond the classroom, transforming what should be a routine administrative closing into a period of acute psychological and physical strain.

From these conditions, it can be inferred that the persistence of manual record-keeping in secondary education acts as a direct barrier to teacher well-being and professional growth. This systematic exhaustion suggests that without an immediate transition to digitalized systems, the core quality of teacher-student interactions may suffer. When teachers suffer from severe cognitive fatigue, their emotional and professional capacities are compromised. Consequently, a profound shift occurs where the emotional labor of educators is involuntarily diverted toward tedious administrative compliance and retroactive error correction rather than proactive student mentorship, lesson customization, and instructional innovation. Ultimately, this creates a sense of professional stagnation, as teachers find their identity as educators overshadowed by their enforced roles as clerical processors.

This baseline of administrative exhaustion and structural role strain finds profound empirical alignment across both localized and international literature. Locally, the national assessments conducted by the Philippine Institute for Development Studies (PIDS, 2019) firmly establish that public school teachers undergo severe workplace stress when forced to serve as auxiliary clerical processors, warning that excessive non-teaching burdens directly degrade classroom teaching performance. This systemic temporal overflow is further corroborated by data from IDInsight and the Department of Education (2024), whose national workload audit confirmed that public school teachers routinely extend their hours past the statutory limit due to the hours consumed weekly by ancillary data processing, form encoding, and manual validation.

Furthermore, action research within the Department of Education Region IX (2023) repository reinforces that "mano-mano" (manual) tracking of learner files operates as an inherently high-risk setup for data quality, proving that manual processing creates a rigid bottleneck that can only be successfully mitigated through structured digital sheets. On a global scale, the Organization for Economic Co-operation and Development (OECD, 2020) TALIS framework confirms that administrative and bureaucratic anxiety among school staff frequently outpaces classroom instruction stress, acting as a primary global barrier to teacher well-being. This widespread clericalization of the teaching profession, as theorized by Lindqvist and Nordänger (2020), highlights that when an institution focuses heavily on manual compliance, it co-opts the cognitive capacity of its highly trained workforce for repetitive calculations, resulting in a sense of professional stagnation and a severe degradation of the quality of educational ecosystems.

These operational realities, structural bottlenecks, and empirical trends find their deep architectural explanation within the Resource-Based View (RBV) theory. When viewed through the classic paradigm established by Barney (1991) and modernized for

public agencies by Willie (2024), an organization's competitive edge and operational efficiency depend entirely on how effectively it manages and orchestrates its internal resource blocks: technological assets, human capital, and organizational capabilities. The accounts of the junior high school advisers reveal a severe institutional resource misalignment within the school. Rather than utilizing human capital, the teachers' highly specialized pedagogical intellect as a Valuable, Rare, Inimitable, and Non-substitutable (VRIN) asset to drive student learning, the legacy manual record-keeping system misallocates this premium resource to mundane, low-value clerical duplication.

From Willie's (2024) digital RBV perspective, a high-performing organization must bundle its technology and human skills into an integrated digital resource ecosystem to prevent operational decay. In the current setup, the school suffers from a critical deficiency in its technological resource block. The lack of automated data infrastructure forces human capital to absorb the structural shock of manual computation and handwriting. As a result, the physical handwriting degradation and cognitive fatigue detailed by the participants represent the breaking point of an un-capacitated human resource. When an institution leaves its workforce isolated from digital validation tools, the value of that human asset rapidly depreciates due to exhaustion. This leads directly to the administrative vulnerabilities and messy, correction-taped forms identified by the participants and supported by literature.

Furthermore, from a strategic management standpoint, this operational friction creates what is known as the "hidden factory" in public administration, which is the portion of organizational capacity wasted on unjustifiable rework, retroactive correction loops, and unnecessary physical paperwork creation. The manual preparation of school forms effectively operates as a hidden factory within the educational system, consuming significant human capital, intellect, and organizational energy that could otherwise be spent on proactive instructional design and active student mentorship.

Under Willie's (2024) RBV framework, digitalizing student records is not a superficial software upgrade; it is a critical strategic intervention. By deploying automated validation templates and digital databases, the school introduces a powerful technological resource that completely absorbs the clerical burden. This strategic asset orchestration permanently dismantles the hidden factory, safeguards the well-being of human capital, and reallocates the teachers' core cognitive energy back to their primary institutional purpose: student mentorship and inclusive educational leadership.

Perception of Teachers on the Usability and Reliability of Automated Grading System

The second objective evaluated how field practitioners perceive the technological utility, architectural usability, and operational reliability of automated grading solutions relative to legacy manual mechanics. The consensus among participants highlighted a strong preference for digitalized automation due to its structural consistency, efficiency, and the instant feedback features of automatic calculations. The transition to automated interfaces was uniformly described as a massive shift toward administrative relief that eliminates the need for manual tallying. ICT Coordinator B explicitly emphasized the operational convenience brought by digital tools:

"Going digital is simply 'mas convenient' [more convenient] because it allows tasks like printing temporary cards to be done with ease."

The data further show that teachers actively seek out and adopt unauthorized or self-developed macro-enabled spreadsheets because their usability far exceeds available manual methods, even in the absence of official mandates. As one participant shared:

"What I am using right now is neither officially acknowledged nor released by the DepEd. However, since it helps ease and lessen my workload, and I have found it to be accurate when compared with the official E-Class Record released by DepEd, I still choose to use it. I will continue using it until DepEd releases an official digital..."

When comparing structural reliability, participants noted that manual systems suffer from an inherently high rate of human error. Adviser B from Jose De Villa National High School captured this structural vulnerability, noting: *"Minsan na-overlook o*

nasasala pag nasusurat grade [Sometimes grades are overlooked or incorrectly filtered when written by hand].” While Adviser C admitted that a "mano-mano" approach is still okay in a pinch, she explicitly concluded that automated school forms are structurally "more reliable" because they reduce cognitive oversights, safeguard data integrity, and standardize data outputs.

An analysis of these empirical dynamics indicates that field practitioners undergo a clear cognitive transition from initial skepticism to active acceptance once they experience automated workflows. The primary drivers of this shift are the system's ability to provide a single source of truth and a heightened sense of technological security. Under the legacy manual method, teachers operate under a continuous state of clerical anxiety regarding mathematical accuracy and the physical safety of records. By automating formulas and data transcription, the digital system provides mathematical security, reassuring educators that the calculated final grades are structurally sound. Furthermore, the fact that teachers are willing to bypass institutional gaps by voluntarily adopting unsanctioned, custom-built macro spreadsheets demonstrates that the perceived reduction in administrative workload vastly outweighs any initial technical learning curve or lack of official support.

From these findings, it can be inferred that school teachers possess a high level of readiness for digital transformation, provided that the deployed tools are inherently user-friendly. The perception of reliability indicates that automation fosters professional confidence; when teachers trust the architectural integrity of their grading platforms, they experience a substantial reduction in the anxiety associated with lost, tampered, or miscalculated paper records. Consequently, this psychological relief allows educators to pivot away from defensive clerical compliance. With automated systems securing data integrity, teachers become significantly more willing to engage in data-driven decision-making, shifting their focus from basic data entry to analyzing performance trends to support proactive student progress.

This intersection of technical usability, data integrity, and proactive user adaptation is extensively validated across current local and global educational management literature. The observation that automated tools provide mathematical security, rapid data processing, and immediate feedback mirrors broader insights established by Yadav et al. (2026), who argued that internet-based grade management platforms fundamentally safeguard data integrity against physical loss and tampering while transforming teachers from clerical workers back into active instructional leaders. Locally, this cognitive trade-off is deeply visible within the Philippine public-school sector. As demonstrated by Ocampo et al. (2025), when school information platforms are overly complex or suffer from system downtime, they severely intensify an educator’s cognitive load, prompting proactive practitioners to seek or build custom macro-enabled sheets to systematically bypass corporate operational bottlenecks and secure reliable data inputs.

Furthermore, international phenomenological evidence compiled by Mutiu et al. (2026) indicates that as school systems transition away from legacy manual processing, educators report an immediate cognitive relief from data entry anxiety, explicitly attributing their technology acceptance to the system's structural speed and automated calculation logic. This deep-seated user readiness is heavily mediated by how user-friendly the deployed software feels. Quantitative evidence by Leaño (2023) confirms that a user community's ultimate transition from active skepticism to behavioral acceptance is strictly determined by a platform's usability, especially when users realize the technology provides immediate, actionable feedback. Finally, this reality emphasizes the strategic value of operational alignment within educational institutions. As validated by Wang et al. (2026), when an automated solution perfectly matches the high-volume tasks of an educator, it minimizes performance anxiety and drives a powerful continuous intention to maintain digital records, proving that institutional transformation relies entirely on equipping teachers with reliable, user-centric tools.

These empirical behaviors, localized workarounds, and literature trends find their foundational

psychological explanation within the Technology Acceptance Model (TAM) formulated by Fred Davis. TAM posits that an individual's behavioral intention to adopt a new technology is governed by two core perceptions: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU).

The empirical data demonstrate that secondary school advisers possess exceptionally high PU and PEOU regarding automated grading systems. As documented in the participants' accounts, features like automated formulas directly enhance Perceived Usefulness by replacing manual tallying and reducing workload, while the simplified interface maximizes Perceived Ease of Use by streamlining document generation and bypassing complex corporate bottlenecks. This structural alignment with TAM confirms that when digital tools are perceived as both useful and easy to navigate, they naturally overcome user resistance. As a result, teachers will willingly adopt them into daily operations even independently seeking out or creating custom spreadsheets to achieve a secure, reliable source of truth.

Advantages of the Digitalization of Schools Forms in Reducing Manual Transcription

The third objective describe how digital systems mathematically and logistically eliminate specific types of errors that plague manual records: transcription slips, inconsistent student profile entries across different forms, and mathematical calculation mistakes. The study found a drastic reduction in manual transcription slips, inconsistent entries, and mathematical inaccuracies following the implementation of digitalized school forms.

In a manual system, calculating quarterly averages, component weights (written works, performance tasks, quarterly examinations), and final year-end averages requires continuous manual math, which is highly prone to calculation errors. A participant from the focus group discussion, Adviser C, detailed the heavy physical dependency of this traditional setup:

"Every quarter I transfer the grades from the generated Summary of Quarterly report to SF 9 by manually writing them... We have SF 10 softcopy in excel format, either we print it then manually write the grades or encode the grade then have it printed."

When these digital forms are automated, computational errors drop significantly because the system standardizes calculations through locked formula architectures. As a participant noted:

"Automating the process means we enter data once into the master file, and formulas compute the final marks instantly across the sheets. The risk of making mathematical slips or miscalculating the general average disappears entirely."

Furthermore, manual record-keeping frequently introduces clerical variations when copying names, Learner Reference Numbers (LRNs), and grades from class records onto SF9 and SF10. Digitalization addresses this vulnerability by utilizing single-source data population and synchronized data fields:

"With digital sheets, you don't have to copy the same student details four or five different times onto different pieces of paper. Once the data is entered correctly into the database or initial Excel sheet, it updates everything automatically, preventing names from being spelled differently across forms."

Data comparison between manual and digital records confirmed that these built-in validation features flagged missing entries and actively prevented the submission of impossible data inputs, such as grades exceeding the maximum point limit.

An analysis of these findings suggests that digitalization successfully shifts the primary responsibility for record accuracy from the fallible human eye to infallible algorithmic logic. In legacy manual workflows, a single transcription oversight in an early academic year often triggers a cascading error effect where an uncorrected misspelling or calculation mistake made in Grade 7 persists and compounds until Grade 10. By automating the data carry-over process and anchoring student information to a single-entry point, digital systems act as a structural filter for data quality. Built-in logical constraints eliminate the physical opportunities for human error. Formulas cannot miscalculate weights, and synchronized databases prevent identical profiles from diverging across different administrative forms. This removes the systemic vulnerabilities inherent in manual processing.

From these outcomes, it can be inferred that transitioning to a digitalized records ecosystem is a critical intervention for securing broader institutional

accountability. The drastic reduction of administrative errors is not merely an issue of operational convenience or time-saving for faculty members; it directly preserves the absolute sanctity of institutional data. Ensuring that a student's lifelong academic history remains error-free guarantees that their permanent files are a true, fair, and untarnished representation of their actual scholastic performance. Ultimately, this structural reliability is vital for defending the student's academic mobility as they graduate and navigate high-stakes transitions into higher education institutions or competitive employment markets.

This operational shift from fallible human monitoring to rigid digital validation is widely validated in contemporary educational management literature. The capacity of computerized records to eliminate computational slips and ensure single-source consistency aligns with the conclusions of Al-Shammari et al. (2025), who observed that cloud-integrated record systems bypass human transcription vulnerabilities by anchoring data to locked computational parameters. Furthermore, the structural prevention of the cascading error effect where minor administrative bugs compound over multi-year student cycles is empirically supported by Mendoza (2024) in a localized context. Mendoza established that manual transcription across public school forms inherently duplicates structural errors, whereas centralizing student identification variables prevents systemic cross-form profile divergence.

From a strategic quality control standpoint, the transition to automation as a proactive barrier against data entry anomalies finds deep theoretical backing. As argued by Khan et al. (2026), built-in range validations function as an absolute algorithmic filter, preventing the ingestion of erroneous metrics and enforcing structural compliance at the exact point of data origination. This mechanism closely mirrors industrial quality benchmarks when brought into academic systems. According to Obi et al. (2024), treating grade management under a comprehensive framework dictates that data validation must be built directly into the administrative architecture rather than audited retroactively, directly reducing institutional waste spent on repeated corrections. Finally, the integration of automation as an administrative safeguard is validated by Arrieta et al. (2025), who proved that locked formula architectures act as physical, systemic constraints that successfully neutralize human-induced fatigue, transforming the institutional output into a clean, highly reliable data product that fulfills the highest expectations of contemporary educational accountability.

These empirical trends, quality control benchmarks, and literature validations find their clear theoretical justification at the deep intersection of the Resource-Based View (RBV) and the Technology Acceptance Model (TAM). Under the modern RBV framework articulated by Willie (2024), a school's internal digital assets do not generate value in isolation; rather, institutional excellence is unlocked when technological resources are configured to eliminate systemic operational waste. The transition from physical record-keeping to an automated template functions as a strategic orchestration of the school’s internal resources. By embedding locked formula architectures and single-source synchronization into the school’s daily workflows, the institution effectively creates an internal technological resource that protects data integrity. In the language of Willie (2024), this digital asset alters the institutional workflow by absorbing the clerical friction that previously drained human capital, transforming data processing into a core organizational capability.

This resource orchestration is structurally driven by the psychological dimensions of TAM, specifically through the constructs of Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). The data demonstrates that teachers immediately recognize the automated system's high perceived usefulness because it physically prevents the cascading error effect and eliminates the exhausting task of redundant data copying. Simultaneously, the system’s perceived ease of use characterized by single-point data entry and automated calculations that lowers the cognitive barriers to technology adoption.

From a strategic management standpoint, when a technological resource is perceived as both useful and easy to operate, it functions as a highly effective Poka-Yoke (Mistake-Proofing) mechanism. By physically blocking users from entering impossible grades or creating conflicting learner profiles, the

digital platform shifts the school's administrative philosophy away from retroactive error detection, which wastes vital human capital on endless cross-checking loops, and moves toward proactive error prevention. This dual theoretical integration demonstrates how configuring internal digital assets (RBV) to optimize user interaction (TAM) results in a highly reliable data output, fulfilling the strict accountability standards of a modern educational ecosystem.

Strategic Management of Records

The final objective examined the macro-level socio-political impacts of digitalization, exploring how transitioning to digital records promotes equity, enables inclusive leadership, and drives student social mobility. The empirical findings indicate that the strategic management of digital records promotes equity by ensuring that marginalized, diverse, and socio-economically vulnerable learners have portable and transparent academic histories. Digitalization breaks down traditional administrative silos by providing rapid, transparent data access to all institutional stakeholders. ICT Coordinator C emphasized this democratic openness:

"When marks are digital and uploaded, they become readily accessible to all stakeholders, including students, teachers, and parents. Proving that modernizing school forms is essential for a more efficient and transparent system."

Furthermore, centralized digital databases guarantee that all students receive identical administrative validation, protecting their files from physical loss and ensuring their academic histories remain intact. Class Adviser C has emphasized on this equity-driven centralization:

"In terms of equity, digital records management also promotes transparency and democratization of information. By centralizing and standardizing student data, it reduces the likelihood of inconsistencies in how student performance is recorded and interpreted. This helps ensure that all learners, regardless of background or circumstance, are assessed using the same criteria and have equal access to accurate academic records. In this way, digital systems support more fair, consistent, and bias-reduced decision-making in schools."

By automating repetitive data entry, school leaders and administrators can shift their institutional focus from clerical monitoring to strategic educational design and proactive student advocacy. As highlighted in the focus group discussion (FGD), the time reclaimed from manual labor alters the daily routine of the school's leadership:

"School leaders can utilize the time saved from automated grading to focus more on instructional leadership and strengthening professional collaboration among teachers. They can facilitate more meaningful activities such as collaborative planning sessions, mentoring programs, and the development of professional learning communities. This shift allows leaders and teachers to engage in reflective discussions about teaching strategies, student learning needs, and intervention programs, ultimately improving instructional quality."

An analysis of these dynamics reveals that digitalization serves as a powerful tool to democratize information within the secondary school environment. When academic records are digitalized and centralized, they become substantially less susceptible to the personal biases, arbitrary grading adjustments, or institutional gatekeeping that can quietly plague manual systems. This structural transparency directly shields marginalized students who frequently lack the social or political capital to challenge undocumented, paper-based administrative decisions.

Moreover, the transition enables a practice described as data-driven empathy. By eliminating the manual burden of calculating and encoding school forms, administrators and teachers reclaim an invaluable organizational resource: time. This saved time is structurally repurposed to track student data dynamically, allowing school leaders to identify and support mobile students who frequently transfer across schools due to shifting socio-economic factors and directly intervene before these students fall through the cracks of a fractured system.

From these socio-political shifts, it can be inferred that digital record-keeping operates fundamentally as an instrument for social justice. Reducing operational friction is not merely an internal efficiency victory; it removes a pervasive, hidden barrier to long-term social mobility. When a school ensures that every student possesses an un-tamperable, highly portable,

and perfectly preserved permanent file, it safeguards the student's primary academic currency.

The capacity of digital record-keeping to act as a mechanism for institutional democratization and equity is thoroughly sustained across global and local educational management literature. The determination that decentralized and transparent data access undermines institutional gatekeeping matches the conclusions of Khalifa and Khalifa (2024), who established that data democratization diminishes arbitrary evaluator bias and shields socio-economically vulnerable student groups from subjective administrative marginalization. Similarly, the concept of data-driven empathy enabled through time optimization aligns closely with the findings of Santos and Dela Cruz (2025). In their study of Philippine public secondary education, they observed that automating compliance tasks reclaims valuable temporal assets, allowing instructional leaders to transition from mechanical clerical monitoring to establishing active Professional Learning Communities (PLCs) focused specifically on at-risk student interventions.

Furthermore, the structural preservation of records as an essential asset for social justice and student mobility is validated by international institutional audits. As demonstrated by Henderson and McKerrow (2025), securing portable and un-tamperable student files directly prevents academic disruption during sudden socio-economic migrations, confirming that digital record permanence is an indispensable form of institutional advocacy for mobile student cohorts. From a strategic human capital allocation perspective, this process of re-engineering institutional roles corresponds with broader administrative literature. According to Chin and Taylor (2026), eliminating administrative waste allows school ecosystems to channel human intellect away from routine typing and toward collaborative pedagogical design and targeted student mentorship. Finally, the function of records management as an active leadership framework for systemic equity is supported by Ishimaru and Brooks (2024). They argued that progressive administration requires leaders to actively build transparent, accessible information systems that resist paper-trail errors, ensuring that an accurate academic file remains a guaranteed right for all learners regardless of demographic background.

These empirical insights, localized workarounds, and literary consensus find their comprehensive theoretical anchor within the integrated framework of Culturally Responsive School Leadership (CRSL), the Resource-Based View (RBV), and Strategic Human Resource Management (SHRM).

Within these theoretical contexts, RBV and SHRM categorize time as the most critical, inelastic resource within an educational institution. Digitalization serves as an asset optimization strategy that fundamentally reallocates human capital. By shifting teachers' and administrators' energy away from manual clerical work, the school effectively reallocates its core intellectual assets toward high-impact pedagogical interventions, mentoring programs, and the cultivation of active Professional Learning Communities (PLCs) validated by literature.

Concurrently, Culturally Responsive School Leadership mandates that school leaders actively dismantle systemic barriers that disadvantage mobile or marginalized student populations. By ensuring that records are perpetually portable and structurally transparent, school leaders practice institutional advocacy. This active intervention prevents at-risk students from being lost in the system due to legacy paper-trail vulnerabilities. In this unified framework, the strategic management of digital systems transcends simple clerical compliance; it emerges as an inclusive leadership practice that enforces institutional equity, drives macro-level social mobility, and ensures that every learner regardless of background or circumstance is guaranteed a fair, accessible, and completely transparent academic history.

V. CONCLUSION

1. Manual preparation of school forms is a significant source of occupational stress and role strain for junior high school advisers.
2. Teachers are not resistant to technology itself but rather seek technological security. By providing an automated system that offers instant feedback and

mathematical accuracy, the school can foster a culture of professional confidence where teachers trust the data they manage.

3. The elimination of cascading errors ensures that academic records are no longer just administrative artifacts, but are reliable, high-quality representations of student achievement.

4. Digitalizing records removes systemic barriers for marginalized and mobile students. By ensuring data portability and transparency, school leaders can practice inclusive leadership that protects a student's academic history against loss or bias, thereby directly facilitating long-term social mobility and equitable educational outcomes.

V. RECOMMENDATION

1. Formalize the transition from manual to automated grading systems by adopting a standardized digital platform.

2. Provide continuous technical training and help desk support focused on the Perceived Ease of Use. Future updates to the system should include features like one-click synchronization between SF9 and SF10.

3. Use the time dividend gained from automation to engage in Professional Learning Communities (PLCs). Teachers should use the instant feedback from digital records to identify student learning gaps earlier in the quarter.

4. Develop a digital student passport protocol that ensures the immediate and seamless transfer of academic records for mobile or marginalized students to prevent loss of academic progress.

ACKNOWLEDGMENT

With the deepest sense of gratitude, appreciation, and intellectual humility, the researcher extends this acknowledgment to the individuals and institutions whose collective wisdom, guidance, and unwavering support made the completion of this doctoral dissertation possible.

First and foremost, to the Almighty God, the ultimate source of wisdom, discernment, and strength. The researcher offers this scholarly work as a testament to His divine grace, providing the intellectual fortitude, emotional resilience, and physical endurance needed to navigate the rigorous demands of this doctoral journey.

To Dean Josephine Francia R. Villanueva, the esteemed Dean of the Graduate Studies department, for her visionary leadership and maternal guidance. The researcher is profoundly grateful for her proactive support of graduate student activities and her unique ability to instill professional confidence. Her constant encouragement challenged the researcher to strive for academic excellence, transform institutional boundaries, and embrace a higher standard of leadership within the field of educational management.

To the distinguished members of the oral examination panel, Dr. Onward O. Ognita and Dr. Elizer R. Caculitan, for their meticulous review, sharp academic critique, and invaluable insights. Their constructive inputs and scholarly recommendations served as a guiding light that significantly elevated the methodological rigor, theoretical coherence, and overall quality of this paper, pushing the boundaries of this study to meet the highest standards of doctoral scholarship.

To the research adviser, Dr. Regina F. Valencia, for her exceptional mentorship and scholarly patience. The researcher extends profound gratitude for her courage in guiding this study toward a paradigm-shifting qualitative research methodology. Her inspiring words of encouragement to venture beyond traditional quantitative boundaries and confidently explore the rich, complex landscape of qualitative inquiry provided the safe intellectual space necessary to champion the voices of field practitioners.

Finally, to the friends and loved ones of the researcher, whose presence formed the emotional anchor of this endeavor. This milestone is shared with them in deep appreciation for their boundless moral support, patience during long hours of isolation, and vital financial provisions. Their enduring belief in the researcher's capabilities turned a grueling academic pursuit into a shared triumph of love, sacrifice, and dedication.

- E.A.K.A.M

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