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Improving the Supply and Property Management System through Digitalization

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***Abstract*—** This study evaluated the Supply and Property Management System developed for Sorsogon State University, highlighting its structured approach to asset management through digital tools and standardized forms. Using the Rapid Application Development (RAD) model, the system was created in four phases: requirement planning, user design, construction, and cutover. The system effectively facilitates inventory tracking, database management, reporting, and disposal of institutional assets. Evaluation results showed that staff strongly agreed with the system's usability, while they agreed with its functionality, reliability, and performance efficiency. Despite its effectiveness, challenges such as manual processes and limited standardization persist. To address these, the study recommends further automation, real-time analytics, mobile accessibility, and regular staff training. Full implementation and maintenance across departments, along with periodic updates, are also advised to sustain and improve system performance. Furthermore, future research may investigate the system's long-term impact on organizational efficiency, user satisfaction, and decision-making across other university campuses. The findings emphasize the need for continuous enhancement and adoption of automated solutions in institutional inventory systems to ensure accuracy, efficiency, and regulatory compliance.

***Keywords*—** Accountability, Automation, Compliance, Inventory, Usability.

I. INTRODUCTION

Supply and Property Management in Educational Institutions

Effective supply and property management plays a vital role in ensuring the operational efficiency and sustainability of educational institutions worldwide. Globally, educational institutions are increasingly recognizing the need for robust inventory systems to manage resources, optimize operational costs, and ensure that facilities and learning materials are available, maintained, and properly accounted for (Gonçalves & Ballestero-Alvarez, 2020). Proper supply and property management directly supports Sustainable Development Goal 4 (SDG 4) of the United Nations ensuring "inclusive and equitable quality education" by helping institutions allocate and maximize resources efficiently (UNESCO, 2017). Schools and universities worldwide use inventory systems not only for asset management but also to uphold transparency, accountability, and sustainability, crucial principles in public sector governance.

In the Philippine context, the importance of supply and property management is further emphasized by national goals for development and governance. The government's vision, outlined in AmBisyon Natin 2040, highlights the aspiration for a "matatag, maginhawa, at panatag na buhay" (stable, comfortable, and secure life) for all Filipinos (National Economic and Development Authority, 2016). Efficient management of institutional resources, such as through sound inventory practices, supports this vision by ensuring that public services including education are effectively delivered. Furthermore, the Philippine Development Plan 2023–2028 calls for modernization and digital transformation in public sector operations, specifically encouraging government agencies, including educational institutions, to adopt digital systems that promote efficiency, transparency, and accountability (NEDA, 2023).

Locally, institutions like Sorsogon State University (SorSU) are tasked with optimizing their supply and property management systems to support these national strategies and institutional goals. Educational institutions that fail to manage their assets efficiently face risks such as wastage, loss of public funds, and service delivery bottlenecks. Hence, digital supply and property management systems are critical tools not only for internal management but also for enhancing institutional credibility and performance.

Moreover, the Ease of Doing Business and Efficient Government Service Delivery Act of 2018 (Republic Act No. 11032) mandates streamlined processes and efficient public service delivery. Under this law, educational institutions are encouraged to automate operations, including supply and property management, to ensure faster transactions, fewer delays, and improved service satisfaction. Implementing a well-organized supply and property management system aligns with the

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Act's objectives by reducing administrative burdens, preventing inefficiencies, and promoting data-driven decision-making.

In the study of Gumilao (2024) which explored the shift from manual to automated inventory systems for the Department of Education Regional Office IX. The study found that computerized systems enabled accurate, real-time data processing, streamlined asset tracking, and improved decision-making efficiency, directly enhancing resource allocation and operational efficiency. Likewise, Odasco & Saong (2023) investigated the University of Baguio's Requisition, Procurement, and Inventory System (UBRPIS). Their findings suggest that an effective inventory setup enables better understanding of shortages or surpluses, thus promoting more responsive resource utilization and supporting stakeholder needs. In addition, the integration of data mining techniques into inventory management has been shown to enhance forecasting accuracy, enabling institutions to prevent shortages and overstocking. This approach also improves monitoring efficiency, speeds up reporting, and supports more effective resource allocation (Tungcul & Kummer, 2021).

Thus, the development and evaluation of supply and property management systems are timely responses to both global calls for sustainable education systems and national directives for improved public sector performance. Properly managing inventory not only improves internal efficiency but also strengthens accountability, supports quality education, and aligns with long-term national and global development goals.

Role of Efficient Database Management, Tracking, Reporting, and Disposal in Organizational Success

Efficient database management, inventory tracking, reporting, and disposal systems are foundational to achieving organizational success across sectors, including educational institutions, businesses, and government organizations. Globally, the rapid shift toward digital transformation has underscored the need for precise and real-time management of data and assets. According to Laudon and Laudon (2020), organizations that successfully manage databases and assets experience greater operational efficiency, better decision-making, enhanced accountability, and improved customer or stakeholder satisfaction.

Database management ensures that information is securely stored, easily retrieved, and systematically updated, promoting transparency and reducing errors (Coronel & Morris, 2019). Effective tracking of assets prevents resource loss, redundancy, and inefficiency, enabling organizations to maintain optimal resource allocation. Reporting provides timely insights and performance metrics essential for strategic planning and governance (Rob & Coronel, 2007). Meanwhile, efficient disposal management is crucial for sustainability, compliance with legal standards, and the responsible handling of obsolete assets (Chun, 2021).

At the global level, international standards such as the ISO 55000 series on Asset Management emphasize the importance of systematic management practices, including database maintenance, monitoring, and disposal protocols, in improving organizational value and sustainability (International Organization for Standardization, 2014). These practices are linked to the United Nations Sustainable Development Goals (SDGs), particularly Goal 12: Responsible Consumption and Production, which promotes the sustainable management and efficient use of natural resources (United Nations, 2015).

In the Philippines, the government's initiatives under the Philippine Development Plan (PDP) 2023–2028 encourage digital transformation, transparency, and effective resource management in both public and private sectors (National Economic and Development Authority, 2023). Specifically, the implementation of Republic Act No. 11032, known as the Ease of Doing Business and Efficient Government Service Delivery Act of 2018, mandates the streamlining of administrative systems, including inventory and asset management, to ensure fast, reliable, and transparent service delivery (Official Gazette, 2018).

Locally, institutions are increasingly recognizing the necessity of robust inventory and database systems to support campus operations, resource allocation, and compliance requirements. Without effective systems in place, local educational institutions risk inefficiencies, resource wastage, and loss of public trust.

Studies support these observations: for instance, in a study by Tetteh and Uzochukwu (2020), organizations with structured database and tracking systems reported 25% faster decision-making and 30% higher efficiency in resource management. Similarly, Abubakar et al.

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(2019) emphasized that real-time asset tracking and reporting significantly reduce the incidence of resource misplacement and improve organizational transparency.

Current State and Challenges of Supply and Property Management Systems in State Universities

Efficient supply and property systems are essential in higher education institutions to manage assets, track educational resources, and ensure transparency and accountability. Globally, universities are moving toward digitalized supply and property management systems to address growing complexities in asset tracking, maintenance, and resource optimization (Al-Shboul & Al-Sayyed, 2020). Proper supply and property management ensures that institutions can meet both operational needs and strategic goals while complying with governance standards.

In many developed countries, universities have adopted enterprise resource planning (ERP) systems that integrate supply and property management with finance, human resources, and procurement (Laudon & Laudon, 2020). However, challenges persist even in advanced settings, including system interoperability issues, resistance to change among staff, and the need for constant system updates to keep up with technological advances (Gonçalves & Ballestero-Alvarez, 2020).

In the Philippines, inventory management in state universities and colleges (SUCs) remains a critical area of concern. A study by Martinez (2021) revealed that while there have been improvements with the use of automated systems, many institutions still rely partly on manual processes, resulting in delays, inaccuracies, and higher operational costs. Issues such as limited funding, lack of technical expertise, and insufficient training contribute to the slow digital transformation of inventory systems in educational institutions. Further, Anade et al. (2023) found that automating supply tracking significantly enhances accuracy, efficiency, and accountability in institutional operations. Their findings emphasize the role of automation in minimizing human error, streamlining processes, and enabling data-driven decision-making.

Similarly, evaluations of university procurement and supply and property systems reveal that automation streamlines workflows but is often undermined by inconsistent reporting formats and insufficient staff capacity (Odasco & Saong, 2023). Studies also show that electronic asset management tools significantly enhance resource monitoring and operational productivity compared to manual methods (Ahmad, 2023).

Further, the Commission on Audit (COA) regularly notes in its annual reports the problems surrounding property, plant, and equipment management in SUCs, highlighting lapses in inventory-taking, reconciliation, and disposal processes (Commission on Audit, 2022). These inefficiencies compromise institutional accountability and can impact service delivery to students and other stakeholders.

At Sorsogon State University (SorSU), the current supply and property management system mirrors many of the national-level challenges. The system still predominantly uses manual encoding, Excel spreadsheets, and paper-based forms for inventory tracking and reporting. Although there have been efforts to digitalize certain processes, such as the encoding of assets into a centralized database managed by the Supply Office, limitations remain: Inventory data are often siloed across departments without real-time integration, leading to inconsistencies in reporting and verification. Asset movement between offices and departments is recorded manually, which increases the risk of errors, data loss, and asset misplacement. Reports for management decision-making are often prepared manually, making it difficult to generate timely and accurate summaries of asset utilization or condition. Proper protocols for disposal of unusable or obsolete assets are not consistently followed or systematically documented, partly due to the lack of a dedicated disposal management system. Staff in charge of inventory and asset management often have multiple administrative responsibilities, limiting the time and expertise they can dedicate to inventory control.

These challenges are reflective of broader structural and resource limitations facing many public universities in the Philippines. Without modernized inventory systems, universities risk inefficient asset management, financial leakages, and reduced operational effectiveness issues that ultimately affect the quality of educational services delivered.

Ayochok & Perez (2023) conducted qualitative research on SUCs in Mountain Province and highlighted significant inefficiencies particularly in resource allocation and tracking attributable to outdated and manual inventory procedures. The study recommends

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integrating digital technologies to reduce errors, delays, and administrative burdens, to enhance cost-efficiency and responsiveness. Likewise, Abubakar et al. (2019) emphasized that the lack of integrated inventory systems in educational institutions leads to higher operational risks and limits the institutions' capacity for strategic asset planning. The need for enhanced inventory systems is also aligned with the national thrusts toward digital transformation under the Philippine Development Plan 2023–2028 (NEDA, 2023), which underscores the use of digital technologies to improve public sector efficiency and governance.

The significance of this study lies in its potential to enhance the operational efficiency and accuracy of supply and property management which is aligned with the university's strategic plan of developing a smart campus in the university.

By addressing specific challenges in database management, monitoring, reporting, and disposal, the developed system can lead to better resource utilization, improved accountability, and data-driven decision-making. Furthermore, the study contributes to institutional development by offering a scalable and structured approach to inventory control, which may serve as a model for future implementations in other departments or campuses. Additionally, the study's results will be utilized as baseline data to evaluate the performance targets of the Supply Office and other relevant indicators aligned with the attainment of the development plan.

This study aimed to develop and evaluate a supply and property management system of Sorsogon State University. Specifically, it aimed to achieve the following: (1) describe the supply and property management system along a) database management, b) monitoring and inventory tracking, c) reporting, and d) disposal management; (2) determine the challenges encountered along the identified variables; (3) develop an supply and property management system; and (4) evaluate the supply and property management system in terms of a) functionality, b) usability, c) reliability, and d) performance efficiency.

II. METHODOLOGY

Research Design

This study employed a descriptive-developmental research method in which this approach combined descriptive research and developmental research with the aim of analyzing existing conditions and design innovative systems. Also, the said method is particularly valuable to Sorsogon State University that seeks to improve the current supply and property management system through digitalization.

The descriptive research component employed systematic observation, document trail, and analysis of the current practices, challenges, and needs related to supply and inventory management at the university. Also, this phase included collecting data from key personnel through unstructured interview, survey, and documentary analysis. Likewise, the goal is to determine the gaps, inefficiencies, and challenges in the institution's existing inventory procedures (Creswell, 2014).

In addition, the developmental phase focused on the design, development, and validation of a functional Supply and Property Management System tailored to the university's specific needs. According to Richey and Klein (2007), this process includes prototype development, iterative testing, user feedback, and system refinement ensuring that the final addresses the documented challenges and improves upon existing processes.

Sources of Data

The participants of the study were purposively selected from the administrative offices such as Accounting personnel, Budget Officers, Supply Officers, ICT/MIS personnel, and BAC Secretariat of Sorsogon State University. These individuals were directly involved in supply and property management and were therefore best positioned to provide relevant and practical insights.

In the challenges aspect of the study, there were 7 (26%) personnel who were selected for unstructured interviews based on their roles and experience with the university's inventory systems. Also, a group of 4 (15%) ICT experts who evaluated the developed system prior to its utilization of the intended users.

A total of 16 (59%) system users were selected through purposive sampling, ensuring representation from various departments that handled physical and IT assets who assessed the functionality, usability, reliability, and efficiency of the system.

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Table 1. The Respondents

Respondents	Frequency	Percentage
Unit Heads	7	26
ICT Experts	4	15
System Users	16	59
Total	27	100

Research Ethics

Research ethics and confidentiality are vital to maintaining the integrity and credibility of scientific studies. Researchers must uphold ethical standards by ensuring fairness, respect, and transparency in dealing with participants (APA, 2020; Creswell & Creswell, 2018). A key responsibility is securing informed consent and safeguarding personal data throughout the research process. In the Philippine context, the Data Privacy Act of 2012 reinforces this obligation by mandating the protection of personal and sensitive information against unauthorized access or misuse. Maintaining confidentiality not only upholds participants' rights but also fosters trust and prevents legal or ethical violations. Adherence to ethical guidelines and data privacy laws is essential for credible, responsible research.

Research Instrument

The study made use of several research instruments tailored to each phase of the research process. For the initial phase, a documentary analysis checklist focused on database management, tracking and monitoring systems, reporting mechanisms, and disposal protocols utilized to systematically examine inventory-related forms, logs, and procedural documents.

For the unstructured interview, an interview guide was employed to identify the challenges encountered by staff in managing inventory. This guide included open-ended questions focused and organized into four sections aligned with the key components of inventory management.

For the system development phase, instruments were employed to ensure that the design, interface, and functionality of the proposed supply and property management system aligned with the needs of the end-users and institutional requirements. Continuous coordination between the ICT/MIS Office and the Supply and Property Office was essential throughout this phase to provide timely technical input and user feedback. The development process followed the Rapid Application Development (RAD) model, which emphasized iterative prototyping, active user participation, and continuous validation. This approach ensured that feedback was integrated at each stage of development, allowing the team to refine system features in response to actual user needs. In the development of the system, several tools and technologies were utilized; these included the frontend (client-side) components for user interaction and interface design, the backend (server-side) logic to manage data flow and processing, the database layer for secure and structured data storage, and hosting/deployment platforms to enable system accessibility and maintenance. A system testing dry run was carried out, allowing testers to interact with the platform in a simulated process. The checklist enabled users to verify the proper functioning of each system module and feature based on defined requirements. It also included specific criteria for identifying technical issues, monitoring system response times, assessing user interface navigation, and validating the accuracy of inventory data across multiple user roles. The results served as the basis for refining system functions and improving overall user experience.

For the evaluation phase, a system assessment tool adapted from the ISO/IEC 25010 quality model designed for measuring software product quality and system quality in use was utilized. The instrument originally covers eight characteristics: functional suitability, performance efficiency, compatibility, usability, reliability, security, maintainability, and portability, assessed through a 5-point Likert scale. For this enhanced supply and property management system, the evaluation focused specifically on functionality, usability, reliability, and performance efficiency, as these were deemed most relevant to the system's objectives and context.

Data Collection

The researcher sought formal approval to conduct the study through a formal communication addressed to the SUC President of Sorsogon State University. Following the approval of the request, the researcher proceeded to obtain consent from the respective office personnel, including those from the Accounting, Budget, Supply,

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ICT / MIS, and Bids and Award Committee (BAC). These individuals were selected based on their direct involvement in the university's inventory management processes, making them qualified to provide informed and relevant insights for the study.

The data collection was conducted during the second semester of the school year 2024-2025, beginning on February 5, 2025, and concluding on May 30, 2025. During this period, the researcher conducted interviews and distributed structured research instruments to gather both qualitative and quantitative data regarding the existing supply and property management practices and the challenges encountered in its implementation.

Interviews were conducted from March 3 to 14, 2025 to determine the challenges being faced in the current inventory system in terms of database, inventory tracking, reporting, and disposal management. These interviews aimed to gather qualitative data on current inventory practices, challenges encountered in manual and semi-digital systems, and the specific needs of each department in terms of asset tracking and monitoring, and disposal management.

Analysis of the interview responses revealed several recurring issues, including delays in updating inventory records, discrepancies between physical and inventory record stock, lack of real-time data access, and insufficient system integration across departments. These findings provided valuable insights that guided the formulation of the system's features and functionalities. The result served as a practical foundation for aligning the system design with actual operational demands, ensuring that the proposed solution would directly address existing gaps and inefficiencies in the university's inventory management process.

In response to the challenges identified, the University together with the Supply and Property and ICT / MIS Office have worked hand and hand to develop a digitalized inventory system designed to address this issues and challenges, and to improve the system.

In the system development and evaluation phases, the ICT, Supply and Property, Budget and Accounting offices were involved in system testing and feedback sessions. A questionnaire was then formulated to evaluate the new inventory system and gather structured, measurable, and user-driven feedback that is essential for determining the system's effectiveness and identifying areas for improvement. Guided by the Rapid Application Development (RAD) model during the developmental phase, the process ensured continuous user involvement, enabling the system design to remain responsive to the actual operational needs of the institution. During the evaluation phase, a questionnaire based on the ISO/IEC 25010 software quality model was used to gather structured feedback on system performance, focusing on functionality, usability, reliability, and efficiency.

The questionnaire was distributed to the selected respondents from May 7 to May 21, 2025, allowing sufficient time for users to interact with and evaluate the system. After the evaluation period, the completed questionnaires were collected, checked, tallied, and prepared for statistical analysis. The data obtained from this instrument played a crucial role in determining the overall quality and effectiveness of the system and to identify areas for further improvement.

Data Analysis

The data analysis for this study followed a multi-method approach, utilizing both qualitative and quantitative techniques to effectively address the research questions across all four phases of the study.

In the first phase, documents were examined pertaining to database management, tracking and monitoring, reporting, and disposal. The analysis aimed to identify strengths, weaknesses, and procedural gaps in the existing system.

For the challenges encountered by the personnel, the responses from the unstructured interview were examined using thematic analysis. Emerging patterns were grouped into themes to determine which challenges were most frequently encountered and the extent to which they affected inventory operations.

In the developmental phase of the inventory system, during the initial phases; particularly from interviews and documentary analysis were instrumental in identifying recurring challenges in the existing inventory process. These findings served as the foundation for defining the system requirements and prioritizing the inclusion of features that would directly address operational gaps. By aligning system's capabilities with actual concerns and workflow operations, the development process ensured that the

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final product would not only be technically efficient but also a responsive practical needs of the university's day to day operations.

In the final phase, the evaluation of the enhanced supply and property management system along functionality, usability, reliability, and performance efficiency involved the weighted mean calculation based on the Likert scale utilized. The scale below was used to interpret the computed values: 1.00-1.49 (Strongly Disagree); 1.50-2.49 (Disagree); 2.50-3.49 (Neutral); 3.50-4.49 (Agree); 4.50-5.00 (Strongly Agree).

III. RESULTS AND DISCUSSION

Manual Supply and Property Management System

This section describes the supply and property management system of Sorsogon State University in terms of database management, monitoring and inventory tracking, reporting, and disposal management. These results were based on the current practices based on the inventory manual employed and the interview from the personnel involved in the system.

Database Management. The database management system for the inventory of supplies, materials, property, plant, and equipment (PPE) is presently making use of the filing cabinets for the safekeeping of the records. Also, the records are saved in the excel files and manually updated if there are new items to be encoded. This is structured to maintain accuracy, accountability, and transparency in the management and monitoring of institutional assets. The procedures involved are essential for streamlining inventory processes, ensuring timely issuance, and managing property effectively.

The database management plays a vital role in maintaining the integrity and efficiency of its inventory management system. For supplies and materials, the process begins with a formal requisition using standardized forms such as the Purchase Request (PR), and Requisition and Issuing Slip (RIS). Each transaction starting from request to issuance is logged both manually and electronically. The central database stores all relevant data, including item names, quantities, issuance dates, and receiving personnel. Real-time tracking of inventory levels helps prevent stock imbalances, while the use of Inventory Custodian Slips (ICS) for semi-expendable items ensures accurate record-keeping. The electronic system also facilitates monitoring and reporting, allowing the Supply Officer to maintain updated records and respond swiftly to supply demands.

For equipment and property, the system incorporates additional layers of documentation such as the Property Acknowledgment Receipt (PAR) and tagging of items with Property Inventory Tags for tracking and audit purposes. Delivered items undergo inspection and acceptance, with key documents like the Inspection and Acceptance Report (IAR), Delivery Receipt, Sales Invoice, and Warranty Certificate being uploaded and linked within the centralized database. This enables seamless cross-referencing, fast retrieval for audits, and compliance with Commission on Audit (COA) requirements. By digitizing prescribed government forms including PR, RIS, IAR, PAR, and ICS, the university ensures consistency, accountability, and accuracy across departments, making supply and property management both transparent and auditable.

The implications of using a centralized and digitized supply and property system are profound. It minimizes human errors common in manual tracking, supports real-time inventory visibility, facilitates decision-making, and ensures compliance with the Commission on Audit (COA) standards. Likewise, this implies that automating the inventory management system significantly enhances database management by improving accuracy and reducing human errors associated with manual data entry, ensuring reliable and up-to-date inventory records. Real-time data synchronization allows for instant updates across all platforms, preventing discrepancies and ensuring consistency in stock levels, orders, and deliveries. Additionally, automated databases offer enhanced security through encryption and automated backups, minimizing risks of data loss or unauthorized access while ensuring compliance with data protection regulations.

Moreover, by incorporating inspection, tagging, and documentation within a single database, the system enables seamless audit trails and fosters financial accountability. This level of integration has been shown to significantly reduce operational costs and enhance responsiveness to supply demands (Garg & Goyal, 2020).

This results is supported by the study of Gupta and Kohli (2006), institutions that adopt automated inventory and database systems experience higher levels of efficiency,

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data accuracy, and strategic asset utilization. Similarly, studies by Agyapong et al. (2019) highlight how digital inventory systems improve public sector governance by ensuring that public resources are utilized optimally and transparently. Thus, the database management system not only supports daily operational needs but also aligns with best practices in institutional asset management, reinforcing its commitment to effective governance, auditability, and service delivery.

Monitoring and Inventory Tracking. This process involves manual processes for monitoring and managing inventory, and it focuses on physical inventory taking, tracking property custodianship, and ensuring that each item is adequately monitored and recorded. Regular physical inventory checks are conducted in the stockroom to monitor supplies and ensure timely replenishment of items that are out of stock or nearing depletion.

Monitoring and inventory management are fundamental components of its asset control and accountability framework. The University employs both the Periodic and Perpetual Inventory Systems to maintain accurate and updated records of supplies, materials, and property. The Periodic System involves scheduled physical counts semi-annually for supplies and annually for equipment to reconcile recorded data with actual quantities, while the Perpetual System continuously updates inventory records as transactions occur. This dual approach not only improves visibility and responsiveness in asset management but also ensures discrepancies are detected and addressed promptly. Physical inventory taking is conducted by an Inventory Committee following standardized guidelines, with each item tagged and verified. A representative from the Commission on Audit (COA) often observes the process to ensure regulatory compliance. The results of the physical count are documented in the Property Inventory Report, submitted annually to key university offices and the COA.

As part of the post-inventory validation process, the Report on the Physical Count of Property Plant and Equipment (RPCPPE) is conducted. This reconciliation ensures that the Inventory Custodian Slips (ICS), Property Cards, and Property Acknowledgment Receipts (PAR) accurately reflect the actual physical inventory on hand. The RCPPE serves as a critical control measure to confirm the consistency and accuracy of inventory records across different documentation sources.

To support real-time monitoring, it integrates a digital database into its supply and property management system. This centralized system records all transactions, from requisitions and issuances to transfers and disposals, enabling efficient and transparent tracking of asset movement. Each property is assigned to a designated custodian using standardized documentation, such as the Property Acknowledgment Receipt (PAR), Property Card, and Inventory Custodian Slip (ICS), which are crucial for accountability. Regular audits and physical inspections conducted by the Supply and Property Office, in coordination with Internal Audit, reinforce compliance and ensure the reliability of inventory data. This hybrid of digital and manual practices provides a robust framework for safeguarding institutional assets while aligning with the auditing standards mandated by the Government Accounting and Auditing Manual (GAAM) and monitored by the COA.

The implications of this approach are multifaceted. First, it enhances the integrity and reliability of inventory records, crucial for budget planning, procurement, and audit readiness. Second, the assignment of property custodians and the use of standardized documentation such as the Property Acknowledgment Receipt (PAR) and Inventory Custodian Slip (ICS) foster individual accountability, reducing risks of asset misuse or loss. In addition, it implies that digitalization the supply and property management system significantly enhance database management by improving accuracy and reducing human errors associated with manual data entry, ensuring reliable and up-to-date inventory records. Real-time data synchronization allows for instant updates across all platforms, preventing discrepancies and ensuring consistency in stock levels, orders, and deliveries. Additionally, automated databases offer enhanced security through encryption and automated backups, minimizing risks of data loss or unauthorized access while ensuring compliance with data protection regulations.

Moreover, by integrating digital tracking with manual validation and aligning with the Commission on Audit (COA) and Government Accounting and Auditing Manual (GAAM) guidelines, the university promotes transparency and regulatory compliance (Agyapong et al., 2019). Further, this finding is corroborated by the study of Wamba and Chatfield (2010) emphasize that

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organizations employing both systems experience improved asset traceability and reduced losses. Similarly, Musa and Dabo (2021) found that public institutions using hybrid inventory models saw better audit outcomes and more efficient resource allocation. These findings support its strategy of reinforcing digital records with physical verification and inter-agency oversight. In essence, the approach to monitoring and inventory tracking establishes a resilient, auditable, and responsive inventory management environment that safeguards assets and supports institutional governance.

Reporting. This phase is a critical aspect of the Supply and Property Management System which is done through the submission of physical documents to the agencies concerned. Delays in document submission sometimes occur as a result of manual data encoding and report printing processes. This ensures that all asset and inventory activities are documented, tracked, and communicated clearly to relevant stakeholders, including the university administration, the Commission on Audit (COA), and other regulatory bodies. The inventory reporting system is designed to maintain transparency, accuracy, and compliance with government policies and auditing standards.

The supply and property management reporting system serves as a critical tool for maintaining accurate, transparent, and accountable records of all university-owned assets. The primary purpose of inventory reporting is to comply with government standards, specifically the Government Accounting and Auditing Manual (GAAM), and to support sound asset management practices. It ensures that the Supply and Property Office remains accountable for tracking, utilizing, inventory, and proper disposal of assets. Key reports include the Annual and Quarterly Inventory Reports, which detail the status, movement, and condition of items, as well as the Report on the Physical Count of Property Plant and Equipment (RPCPPE) and Property Inventory Report, which reconciles physical counts with inventory records. These reports promote transparency by providing verifiable information to both internal stakeholders and external regulators, including the Commission on Audit (COA).

The inventory reporting process involves coordination among the Supply Officer, Accounting Office, and the Inventory Committee. Physical inventory counts are conducted to validate existing records, and any discrepancies identified are investigated and documented through reconciliation or adjustment reports. Disposal-related reports, such as the Inventory and Inspection Report of Unserviceable Property (IIRUP) and Waste Material Report (WMR), ensure that unserviceable or obsolete assets are disposed of in accordance with proper procedures and are supported with clear documentation. Reports are submitted based on a prescribed schedule annually by January 31 and quarterly at the end of March, June, and September to ensure timeliness and data accuracy. The system adheres to Sections 490 and 491 of GAAM and undergoes COA review, reinforcing the university's commitment to regulatory compliance and effective inventory governance.

It implies that digitalized reporting transforms inventory analysis by generating real-time, customizable reports with minimal manual intervention, offering insights into sales trends, stock turnover, and demand forecasting. These data-driven reports empower managers to make informed procurement and sales decisions, enhancing operational efficiency and profitability. Additionally, automated reporting ensures compliance with regulatory requirements by maintaining accurate, auditable records for financial and legal purposes.

The results are supported by the study of Ghazali and Rahman (2015) highlighted how structured reporting practices in Malaysian public universities contributed to improved asset governance and fewer audit issues. Mohammad et al. (2021) similarly observed that adherence to auditing standards through inventory reporting enhanced financial integrity and operational performance in higher education institutions. Nwaolisa and Kasie (2017) further established that regular inventory reporting improved accountability and efficiency in Nigerian tertiary institutions. Finally, the COA (2022) underscores that government institutions are mandated to report asset movements and status consistently, and institutions that comply are better positioned to safeguard their resources. Thus, SorSU's commitment to timely and accurate inventory reporting not only fulfills legal obligations but also strengthens its institutional governance framework.

Disposal Management. This is a critical component of supply and property management and asset lifecycle management. The disposal process is manually conducted by identifying and verifying stockroom items that have surpassed their service life and are designated for condemnation. Usually this is governed by a well-

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defined set of policies, procedures, and regulations designed to ensure that assets are disposed of in an efficient, transparent, and legally compliant manner. The disposal system addresses not only the physical and tangible assets but also includes intangible assets that may no longer serve the institution's needs.

The implementation follows a structured and compliant disposal management system to ensure the safe, efficient, and lawful disposal of university-owned assets. The primary goal is to prevent further depreciation of unused, unserviceable, or obsolete assets while upholding the requirements of the Government Accounting and Auditing Manual (GAAM), the Manual of Disposal of Government Properties and other relevant regulations. The disposal process applies to all university properties with a useful life of one year or more including tangible and intangible assets that no longer serve the institution's operational or academic needs. Assets identified as unserviceable or obsolete are inspected, appraised, and endorsed by the Disposal Committee, then approved for disposal by the University President. Tracking mechanisms, such as unique property numbers and regular inventories, ensure transparency and accountability from acquisition to disposal.

Disposal methods at vary based on the asset's condition, classification, and applicable legal guidelines. These methods include condemnation or destruction for valueless or hazardous items, transfers to other government agencies, donation, return to suppliers, barter, and various modes of sale such as public auction, negotiated sale, or sale to government employees. Junk and scrap materials may also be recovered for recycling. Each disposal activity is documented through official documentation such as the Inventory and Inspection Report of Unserviceable Property (IIRUP), Waste Material Report (MWR), and Property Transfer Receipts (PTR), with COA representatives often present to witness or validate critical stages of the disposal process, ensuring transparency, property accountability, and strict adherence to regulatory requirements.

This implies that automation streamlines disposal management by automatically flagging expired or obsolete inventory, reducing waste and associated financial losses. Digital workflows ensure compliance with disposal regulations, guiding proper methods such as recycling, donations, or safe destruction. This not only cuts storage costs but also promotes sustainability by minimizing environmental impact and aligning with corporate social responsibility goals.

According to Adetayo and Oginni (2020), effective disposal management practices contribute significantly to the operational efficiency and financial accountability of public institutions in Nigeria. Similarly, a study by Asante and Yamoah (2019) in Ghana's educational institutions found that asset disposal, when carried out transparently and according to policy, helped institutions minimize losses and meet audit standards. In the Philippine context, the Government Accounting and Auditing Manual (GAAM) mandates proper documentation and oversight of asset disposals to ensure transparency and mitigate corruption risks (Commission on Audit, 2022). Therefore, the structured disposal process reflects best practices in public asset management and supports the integrity and sustainability of institutional operations.

Challenges Encountered by the Staff on the Supply and Property Management System

This portion presents the themes and sample responses of the challenges encountered by the staff on the Supply and Property Management System along with database management, monitoring and inventory tracking, reporting, and disposal management. The said challenges were drawn from the unstructured interview conducted with selected staff who were directly involved in the system. Also, the staff in this study pertains to the accounting, supply, and budget office personnel who are directly involved in the system.

Database Management. Table 2 contains the themes and sample responses of the challenges encountered by the staff on supply and property management system along with database management.

Table 2. *Challenges Encountered by the Staff along database management*

Themes	Sample Responses
1. Data accuracy and integrity	-Errors such as inconsistent entries and duplicate records affect the reliability of inventory data.
2. System limitations and reliability	-The system lacks real-time updates and shows performance issues during use.

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3. User access and control	-Users face difficulties due to role-based access control.
4. Integration and compatibility	-The system does not integrate well with other platforms and has compatibility problems with some features.
5. Back-up and recovery	-Data safety is at risk due to inadequate backup procedures and slow system recovery times.

It can be gleaned from the table that one of the major themes in database management is ensuring data accuracy and integrity, which is often compromised by inconsistent data entry and duplicate records. When users input data in varying formats or without standardized guidelines, it results in unreliable inventory reports and poor decision-making. Duplicate entries further distort data analysis, leading to inefficiencies and potential operational errors.

Another significant concern is the system's limitations and reliability, particularly its lack of real-time updates and weak recovery mechanisms. Without timely data synchronization, staff may act on outdated or incorrect information, reducing overall effectiveness. Additionally, inadequate back-up procedures and slow recovery times heighten the risk of data loss during technical system failures, emphasizing the urgent need for a robust disaster recovery plan.

Monitoring and Inventory tracking. The themes and sample responses of the challenges encountered by the staff on supply and property management system along with monitoring and reporting tracking are listed in the table below.

Table 3. *Themes of the challenges encountered by the staff along monitoring and inventory tracking*

Themes	Sample Responses
1. Accuracy of stock level	-Inventory data becomes unreliable due to manual counting errors and unrecorded updates, and delays in updating records.
2. Monitoring	-Asset movements are poorly tracked due to delayed updates and inefficient monitoring.
3. Reporting and Auditing	-Reporting is limited and audit trails are inconsistent, making accountability and verification difficult.
4. Asset tagging and Identification	-Mislabeling, lost, and worn-out tags lead to confusion in identifying and locating assets.
5. System integration and coordination	-Poor inter-department coordination and lack of system integration cause data silos.
6. Inventory visibility	-Low-use items and inventories across multiple sites are hard to monitor effectively.
7. Dependency on manual processes	-Manual reconciliation and the absence of automation slow down inventory operations and increase the risk of errors.

The data revealed that relative to monitoring and inventory tracking, supply and property management systems often suffer from inaccurate stock levels due to manual counting discrepancies and delayed records updates. These issues lead to mismatches between actual and recorded inventory, affecting purchasing decisions, budget allocation, and service delivery. The absence of real-time monitoring further compounds the problem, with delayed updates and inefficient tracking of asset movement causing visibility gaps across operations.

Other persistent challenges include insufficient reporting and week audit trails, which limit the ability to analyze trends and ensure accountability. Inaccurate asset tagging and physical wear on tags make identification difficult, while system integration problems result from poor coordination between departments and non-integrated platforms. Additionally, a reliance on manual processes, such as manual reconciliation and the lack of automation, reduces efficiency and increases the risk of human error in managing inventory across multiple locations.

Reporting. Table 4 contains the themes and sample responses of the challenges encountered by the staff on supply and property management system along with reporting.

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Table 4. Themes of the challenges encountered by the staff along reporting

Themes	Sample Responses
1. Accuracy of Data Entry	-Reports are compromised by human errors and untimely updates in data encoding.
2. Standardization in reporting	-Inconsistent formats and vague guidelines lead to non-uniform and unclear reports.
3. Timeliness of report submission	-Delays and difficulty meeting deadlines affect the timely delivery of the required reports.
4. Adequacy of reporting tools	-Limited system features and data overload hinder effective report generation.
5. Sufficiency of training on reporting procedures	-Lack of staff preparation and complex requirements make accurate reports difficult.

It can be asserted from the table that reporting processes often face setbacks due to inaccurate data entry and lack of standardization. Human error during data encoding and failure to update records on time lead to misleading reports and compromised decision-making. Inconsistent formats and unclear reporting guidelines further reduce the reliability and comparability of reports across departments.

Timeliness and accuracy are also hindered by inadequate tools and training. Delayed reporting and difficulty meeting regulatory deadlines stem from limited report generation features, data overload, and insufficient user skills. Additionally, outdated or malfunctioning software, along with challenges in reconciling physical and system records due to missing audit trails, further complicate reporting accuracy, especially when integration with financial or procurement systems is lacking.

Disposal management. The challenges encountered by the staff on supply and property management system along with monitoring and reporting tracking are listed in the table below.

Table 5. Themes of the challenges encountered by the staff along disposal management

Themes	Sample Responses
1. Disposal Guidelines	-Disposal practices are inconsistent due to unclear procedures and confusion about authorization.
2. Tracking of Disposed Assets	-Asset disposal records are unreliable due to missing documentation and incomplete reports.
3. Efficiency of Disposal Process	-The disposal of obsolete items is delayed by slow approvals and process bottlenecks.
4. Compliance Issues	-Disposal activities often fail to meet regulatory standards and lack proper external oversight.
5. Sufficiency of Training on Disposal Procedures	-Staff lack the necessary knowledge and skills to properly document and perform disposal tasks.
6. Inventory System Limitations	-The current system lacks proper disposal tracking features and integration with inventory processes.

The data showed that asset disposal processes often face critical challenges due to the lack of clear guidelines and inadequate tracking mechanisms. Unclear or inconsistent procedures, along with confusion over disposal authorization, result in miscommunication and improper handling of assets. Additionally, many organizations fail to properly document disposal activities, leading to missing or incomplete reports that hinder accountability and audit readiness.

Delays and inefficiencies in the disposal process are further aggravated by slow approval workflows and difficulties in removing obsolete items promptly. Compliance lapses, such as ignoring regulatory standards or failing to involve external oversight, pose legal and reputational risks. Moreover, limited staff training and inconsistent disposal methods especially in handling hazardous materials combined with inventory system limitations, increase the risk of misappropriation

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and raise ethical concerns around the disposal of still-functional items.

Development of the Enhanced Supply and Property Management System

This segment encompasses the systematic development of the Supply and Property Management System (IMS) for Sorsogon State University. The development was guided by the results of the review of the existing manual processes and challenges encountered by the administrative personnel. The process followed the Rapid Application Development (RAD), in which this methodology is recognized for its emphasis on iterative design, continuous user involvement, and fast delivery of functional systems. The RAD model consists of four major phases: (1) Requirements Planning, (2) User Design, (3) Construction, and (4) Cutover. Each phase was completed with the assistance from the ICT development team to ensure that the system addressed actual institutional needs.

To support this process, a variety of tools and technologies were utilized throughout the development lifecycle. The frontend (client-side) was developed to ensure a user-friendly and intuitive interface, facilitating ease of use for non-technical staff. The backend (server-side) was designed to manage logic, process requests, and ensure secure and efficient transaction handling. A database layer was implemented to store, organize, and retrieve inventory data reliably, while hosting and deployment platforms were employed to make the system accessible across departments and maintain operational stability. The strategic integration of these components contributed to a functional, efficient, and accessible digital solution that responded directly to the university's inventory management needs.

Requirements Planning Phase. This phase served as the foundation for the system design. This phase involved identifying the problems and information gaps in the existing inventory practices through semi-structured interviews and document analysis. Key informants were purposively selected from the university's administrative, property, and ICT units, as they were directly involved in inventory-related processes. The qualitative data revealed several issues in the current system, including data redundancy, inconsistencies in tracking, delayed reporting, and inadequate disposal documentation. Based on this input, the development team outlined essential system modules: asset registration, inventory tracking, reporting, disposal management, and role-based access. The defined requirements were validated through stakeholder feedback to ensure completeness and contextual relevance.

User Design Phase. In this phase, the ICT development team created low-fidelity prototypes to represent the system's layout and functional components. These prototypes were presented to selected end-users in guided evaluation sessions to gather feedback on system navigation, layout, and usability. Stakeholder inputs were instrumental in reshaping the interface to accommodate user preferences and improve workflow logic. Feedback mechanisms such as prototype review forms and guided walkthroughs were used to identify usability issues and suggest refinements. The iterative nature of the RAD model allowed for rapid revisions, leading to the development of a user-centered design that was both functional and accessible across different levels of technical proficiency.

Construction Phase. This phase involved the actual development of the system modules based on the approved designs. The front end of the system was developed using HTML, CSS, and JavaScript, while the backend was supported by a MySQL relational database. The system was developed incrementally, with each module such as asset encoding, status monitoring, and reporting undergoing independent testing before full system integration. Regular validation with end-users was conducted to ensure that each feature aligned with the expectations set during the design phase. Key functionalities such as barcode generation, secure login, and real-time reporting were implemented. Technical and user feedback from this phase contributed to the continuous improvement of the system's reliability, efficiency, and user experience.

Cutover Phase. This phase involved full deployment of the system, including training, data migration, and performance evaluation. A pilot implementation was conducted with selected users to observe system functionality in a live environment. Historical inventory records were digitized and uploaded into the system database. End-user training was facilitated to ensure proper adoption and usage. System performance was assessed using an evaluation tool based on the ISO/IEC 25010 software quality model.

The application of the RAD model in the development of the Supply and Property Management System

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ensured the integration of user feedback at each stage, from planning through implementation.

The structured yet flexible development process enabled the team to respond efficiently to emerging user needs while maintaining focus on the system's core objectives. Tools and techniques in system development including those for frontend, backend, database, and deployment were effectively utilized to support functionality and performance.

As a result, the developed system addressed critical gaps in the university's inventory processes and contributed to improved accuracy, accessibility, and operational efficiency.

Evaluation of the Enhanced Supply and Property Management System

This portion presents the evaluation of the staff on the enhanced Supply and Property Management System in terms of functionality, usability, reliability, and efficiency. There were 16 selected system users from the accounting, supply, and budget office personnel who evaluated the developed system.

Functionality. Table 6 presents the weighted mean and interpretation of the evaluation on the enhanced Supply and Property Management System in terms of functionality. In this study, functionality refers to the system's ability to accurately and efficiently perform core inventory tasks.

Table 6. *Evaluation of the Enhanced System in Terms of Functionality*

Indicators	Weighted Mean	Interpretation
1. The system provides all the features necessary for inventory management.	4.25	Agree
2. The functions work as expected without significant errors.	3.85	Agree
3. The system supports multiple inventory-related tasks (e.g., tracking, reporting, disposal).	4.45	Agree
4. User roles and permissions are implemented effectively.	4.45	Agree
5. The system handles both physical and IT assets accurately.	4.40	Agree
Overall Weighted Mean	4.28	Agree

It can be gleaned from the table that generally the respondents agree that the enhanced inventory system is functional with an overall weighted mean of 4.28. Specifically, they agree that the system supports multiple inventory-related tasks and user roles and permissions are implemented effectively with the highest weighted mean of 4.45. Similarly, the system handles both physical and IT assets accurately was agreed by the evaluators with weighted mean of 4.40. However, the respondents agree that the functions work as expected without significant errors with the lowest weighted mean of 3.85.

It implies that the high functionality of the system reflects core public administration values such as efficiency, accountability, and transparency. By integrating essential inventory processes into a single platform, it enables staff to perform tasks more quickly and accurately, thereby improving workflow and reducing manual errors. This level of operational responsiveness not only enhances service delivery but also strengthens integrity in asset management. The system's functionality aligns with key government regulations, including RA 9184, RA 6713, and RA 11032, as well as COA circulars and the Government Accounting Manual, which emphasize efficiency, transparency, and proper asset accountability. Compliance with these laws ensures that inventory operations meet legal standards while supporting ethical and effective public service delivery.

The result is corroborated by the study of Pascual and Estrella (2020) which found that functional inventory systems in Philippine public schools significantly enhanced resource accountability and efficiency. Similarly, Albar and Hoque (2019) emphasized that complete and functional system features led to higher user satisfaction and increased adoption in healthcare inventory systems.

Usability. Table 7 lists the weighted mean and interpretation of the evaluation on the enhanced Inventory Management System in terms of usability. Operationally, this pertains to the ease with which users can learn, navigate and efficiently operate the system to complete inventory tasks with minimal errors and support.

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Table 7. Evaluation of the Inventory Management System in Terms of Usability

Indicators	Weighted Mean	Interpretation
1. The system interface is clear, intuitive, and user-friendly.	4.70	Strongly agree
2. I was able to learn how to use the system with minimal training.	4.55	Strongly agree
3. The system layout and design support efficient task completion.	4.50	Strongly agree
4. Labels, buttons, and menus are easy to understand and locate.	4.50	Strongly agree
5. Help messages and prompts are available and useful when needed.	4.25	Agree
Overall Weighted Mean	4.50	Strongly agree

The data revealed that generally the respondents strongly agree that the enhanced is usable with an overall weighted mean of 4.50. In particular, the system interface is clear, intuitive, and user-friendly as strongly agreed by the respondents with the highest weighted mean of 4.70. Similarly, they strongly agree that they were able to learn how to use the system with minimal training with weighted mean of 4.55. Consequently, they agree that the help messages and prompts are available and useful when needed with the lowest weighted mean of 4.25.

This implies that the high usability of the system demonstrates the public administration values of efficiency, responsiveness, and transparency. An intuitive interface allows staff to perform tasks with minimal training, reducing downtime and enhancing productivity. This ease of use encourages consistent system adoption, thereby promoting accurate and timely inventory management. The system's usability supports compliance with RA 11032 (Ease of Doing Business and Efficient Government Service Delivery Act) by streamlining processes and minimizing delays caused by technical difficulties. It also aligns with RA 6713 (Code of Conduct and Ethical Standards for Public Officials and Employees) by fostering competence and professionalism in public service operations.

A highly usable system allows users to interact with the software intuitively, reducing training time and cognitive load. Bautista and Uy (2021) reported that LGU staff in the Philippines preferred inventory systems with clear interfaces and easy navigation, resulting in faster task completion. Globally, Nielsen (2012) affirmed that user-centered design and interface clarity are foundational to system usability and successful software adoption.

Reliability. Table 8 presents the weighted mean and interpretation of the evaluation on the enhanced Supply and Property Management System in terms of reliability. As used in this study, it refers to the system's consistent performance and ability to operate accurately and without failure over time, especially during critical inventory operations.

Table 8. Evaluation of the Enhanced System in Terms of Reliability

Indicators	Weighted Mean	Interpretation
1. The system performs consistently under normal use.	4.35	Agree
2. System downtime or crashes are rare or non-existent.	4.15	Agree
3. Data input and output are accurate and consistent.	4.30	Agree
4. The system provides appropriate error messages when something goes wrong.	3.95	Agree
5. I can trust the system to store and retrieve data without failure.	4.35	Agree
Overall Weighted Mean	4.22	Agree

It can be asserted from the table that the enhanced supply and property system is reliable as generally agreed as evaluated by the respondents with an overall weighted mean of 4.22. Specifically, they agree that the system performs consistently under normal use with the highest weighted mean of 4.35. Likewise, the respondents agree that the data input and output are accurate and consistent with the weighted mean of 4.30. On the other hand, they agree that the system provides appropriate error messages when something goes wrong with the lowest weighted mean of 3.95.

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It implies that the system's high reliability reflects the public administration values of accountability, integrity, and efficiency. Consistent performance and accurate data processing build user trust, ensuring that inventory records remain dependable for operational and audit purposes. By minimizing downtime and preventing disruptions, the system enhances service continuity and supports sound decision-making. The reliability of the system upholds RA 9184 (Government Procurement Reform Act) and COA circulars by ensuring accurate and consistent asset documentation. It also supports RA 6713 (Code of Conduct and Ethical Standards for Public Officials and Employees) by fostering integrity and professionalism in the management of government resources.

The said finding is in consonance with the study of Reyes (2020), found that LGU staff trusted reliable inventory systems that exhibited low downtime and consistent data output. Also, supporting this, Kim and Park (2017) showed that system reliability is a major contributor to user trust in government digital platforms, directly influencing satisfaction and continued use.

Performance Efficiency. Table 9 contains the weighted mean and interpretation of the evaluation on the enhanced Supply and Property Management System in terms of efficiency. In this study, it refers to the system's ability to execute inventory tasks quickly and accurately using optimal resources.

Table 9. *Evaluation of the Enhanced System in Terms of Efficiency*

Indicators	Weighted Mean	Interpretation
1. The system responds quickly to commands and actions.	4.60	Strongly agree
2. Reports and data queries are generated within an acceptable time frame.	4.50	Strongly agree
3. The system performs well even with large volumes of data.	4.30	Agree
4. The system uses resources (e.g., memory, bandwidth) efficiently.	4.40	Agree
5. System loading time is acceptable across different modules.	4.60	Strongly agree
Overall Weighted Mean	4.48	Agree

The data showed that the respondents generally agree that the developed inventory system is efficient in its performance with an overall weighted mean of 4.48. In particular, they strongly agree that the system responds quickly to commands and actions and system loading time is acceptable across different modules with the highest weighted mean of 4.60. Also, the respondents agree that the reports and data queries are generated within an acceptable time frame with weighted mean of 4.50. However, they agree that the system performs well even with large volumes of data with the lowest weighted mean of 4.30.

This implies that the system's strong performance efficiency embodies the public administration values of efficiency, responsiveness, and service quality. Fast response times and optimal resource utilization enable staff to complete inventory tasks promptly, thereby enhancing productivity. This operational capability ensures that services are delivered without delays, meeting the demands of both internal processes and stakeholder expectations. Performance efficiency aligns with RA 11032 (Ease of Doing Business and Efficient Government Service Delivery Act) by reducing processing time and streamlining government transactions. It also supports RA 9184 (Government Procurement Reform Act) by facilitating timely and accurate reporting essential for procurement and asset management.

The result is supported by the study of Delos Reyes (2021) which showed that in Philippine state universities, performance-efficient systems allowed for faster inventory audits and reporting. Likewise, Bevan, Carter, and Harker (2016) supported this by stating that under the ISO 25010 framework, efficient use of resources and quick system responses are essential for user satisfaction in enterprise software.

V. CONCLUSION AND RECOMMENDATIONS

Based on the findings, this study concludes that the Supply and Property Management System demonstrates a comprehensive and structured approach to managing institutional assets, emphasizing accuracy, accountability, and regulatory compliance. Through the integration of digital tools and standardized government forms, the system effectively supports database management, monitoring, reporting, and disposal functions. Also, it faces ongoing challenges in inventory management due to system limitations, manual

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processes, and lack of standardization. The supply and property management system was developed using the Rapid Application Development (RAD) model with four phases which are requirement planning, user design, construction, and cutover. In addition, the evaluators strongly agree of the functionality of the developed system but agree of its functionality, reliability, and performance efficiency based on the ISO/IEC 25010 software quality evaluation.

It was recommended that SorSU may further enhance its supply and property management system by adopting a fully automated platform with real-time analytics and mobile accessibility to increase efficiency and minimize human error. Additionally, continuous training for staff on updated inventory protocols and system usage may be implemented to sustain compliance and system effectiveness. Likewise, the University may adopt integrated, automated solutions and provide continuous staff training to enhance accuracy, efficiency, and compliance. Also, the developed inventory management system may be fully implemented and maintained across departments and offices, with periodic updates to further enhance performance and address evolving user needs. Future research may explore the long-term impact of the Supply and Property Management System on organizational efficiency, user satisfaction, and data-driven decision-making across other campuses.

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