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Smart CATSU Library Initiative: Design and Development of an RFID-Based Multifunctional Library Management System

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Abstract. This study proposed an RFID-based Multi-functional Library Management System (LMIS) for Catanduanes State University (CatSU) Library to address the limitations of manual book circulation, inventory monitoring, and resource tracking. Although RFID technology offers opportunities to automate library operations, the system requirements and operational and technical feasibility of an integrated RFID-based solution must be assessed in the institutional context. Specifically, the study aimed to identify the information requirements, determine the essential system functions and features, and assess the operational and technical feasibility of the proposed system. A feasibility study design was employed, involving thirteen (13) purposively selected respondents comprising students, administrative personnel, and relevant stakeholders. Data were collected through a structured survey questionnaire using a five-point Likert scale and analyzed using frequency distribution, weighted mean, and descriptive interpretation. The findings revealed strong agreement regarding the system's information requirements (grand mean = 4.85) and proposed functions and features (grand mean = 4.83). Operational and technical feasibility also received a favorable assessment, with a grand mean of 4.50. Accurate user information management and efficient book tracking and searching were among the highest-rated requirements, each obtaining a weighted mean of 4.92. However, the availability of necessary hardware (3.69) and network infrastructure support (4.00) received comparatively lower ratings, indicating areas requiring further assessment and improvement. The study concludes that the proposed RFID-based LMIS is perceived as operationally and technically feasible, subject to infrastructure readiness and further validation. However, the findings are limited by the small purposive sample and the absence of full-scale implementation, actual infrastructure testing, and long-term evaluation. The study recommends prototype development, infrastructure assessment, user training, and subsequent system testing before institutional deployment.

Keywords: Radio-Frequency Identification (RFID); Library Management Information System; Library Automation; Operational Feasibility; Technical Feasibility

Introduction

University libraries play an essential role in supporting teaching, learning, and research by providing access to academic information resources. However, increasing library collections and user demands can challenge traditional manual procedures for book circulation, inventory monitoring, and resource tracking. These processes may result in transaction delays, recording errors, and difficulties in maintaining accurate book availability. Radio-Frequency Identification (RFID) technology offers opportunities to automate book identification, circulation, and inventory management when integrated with a Library Management Information System (LMIS).

Previous studies have demonstrated the potential of RFID in library automation, including intelligent book-location systems (Li, 2022), IoT-based smart-library architectures (Xu et al., 2024), and integrated circulation and inventory management platforms (Mulyono et al., 2025; Aguila & Balba, 2025). However, adopting these technologies requires consideration of institution-specific information requirements, operational workflows, user needs, and infrastructure readiness. For Catanduanes State University (CatSU), these requirements and the operational and technical feasibility of an integrated RFID-based library system must be assessed before full-scale implementation.

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To address this gap, the SMART CATSU Library Management System Initiative proposes an integrated, web-based platform combining RFID-enabled book identification, self-service checkout, centralized transaction records, inventory monitoring, and administrative oversight. Its distinctive contribution is the assessment of these integrated functions within the CatSU Library context, rather than the introduction of RFID technology itself. The study is guided by the Technology Acceptance Model, UTAUT2, Diffusion of Innovation Theory, Queueing Theory, and the Internet of Things perspective to inform system usability, adoption, operational efficiency, and technological integration.

Specifically, this study aims to (1) determine the information requirements for the proposed LMIS, (2) identify its essential functions and features, and (3) assess its operational and technical feasibility. A feasibility study design was employed, involving thirteen purposively selected respondents. Data were collected through a structured questionnaire and analyzed using descriptive statistics. The findings are intended to guide system development, identify infrastructure requirements, and inform future implementation. However, the study is limited to stakeholder assessments and does not include full-scale deployment, actual infrastructure testing, or long-term performance evaluation.

Research Questions

This study proposed an RFID-based Multi-functional Library Management System (LMIS) for Catanduanes State University (CatSU) Library.

Specifically, this study aimed the following:

1. To determine the needed information in the design and development of the proposed Library Management Information System for Catanduanes State University;
2. To determine the functions and features of the Library Management Information System;
3. To determine the level of operational and technical feasibility of the proposed Library Management Information System.

Scope and Delimitation of the Study

This study focuses on designing a web-based kiosk library management information system for Catanduanes State University (CatSU) Library, specifically aimed at automating core circulation functions such as borrowing of books, real-time search of library materials, inventory alerts, security management, and returning of books through the admin dashboard. This study is limited to the design and feasibility assessment of an RFID-based Library Management Information System and does not involve full-scale implementation or long-term system evaluation. The study was conducted with thirteen (13) respondents, which may limit the generalizability of the findings. It focused only on operational and technical feasibility, excluding economic, legal, and policy considerations. Furthermore, the scope of the system is limited to core circulation functions, while integration with other university systems and actual infrastructure testing are not included in this research. Additionally, integration with other university systems is beyond the scope of this research, and the design and development of a prototype may not cover the overall library operations.

Literature Review

RFID Technology in Modern Library Management

Radio-Frequency Identification (RFID) has become an important technology for automating library operations by enabling the identification and monitoring of tagged materials. Li (2022) investigated RFID-based intelligent bookshelf technology and demonstrated its potential for improving book-location information. Similarly, Xu et al. (2024) proposed an Internet of Things (IoT)-based smart-library architecture integrating RFID and software-defined networking to support resource management and library automation. These studies demonstrate that RFID can support both material identification and more extensive library management functions.

RFID-Based Circulation and Self-Service

RFID-based library systems can automate borrowing and returning procedures, reduce repetitive manual processing, and support self-service transactions. Hu et al. (2024) developed an RFID-based wireless self-service approach for book classification and monitoring, demonstrating additional applications of RFID beyond conventional circulation. In the Philippine context, Aguila and Balba (2025) developed SmartLibrary at the Lyceum of the Philippines University–Laguna, integrating RFID, inventory management, circulation, an online public access catalog, and administrative reporting. These implementations show that RFID can serve as part of an integrated library service environment rather than merely as a book-identification mechanism.

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Original Article

RFID for Inventory Management and Resource Tracking

Accurate inventory management is essential for maintaining reliable records of library collections and locating materials efficiently. RFID-enabled systems can facilitate resource identification and inventory updates, while intelligent shelf technologies can provide additional information about book locations. Li (2022) explored RFID-based book positioning, whereas Xu et al. (2024) examined the integration of RFID into a networked smart-library architecture. Nevertheless, the practical effectiveness of these applications depends on reader placement, tag readability, database accuracy, network reliability, and the extent of infrastructure available to the institution.

Integrated Library System Architecture

The integration of RFID hardware with databases, application interfaces, and administrative functions is central to developing a coordinated library management system. Xu et al. (2024) demonstrated an architecture connecting RFID devices and network components, while Aguila and Balba (2025) presented an integrated application incorporating circulation, inventory management, catalog access, and administrative monitoring. These studies establish that effective RFID-based library automation requires coordination between physical identification devices and information-processing components.

For the proposed SMART CATSU system, this architectural perspective informs the planned connection among RFID-tagged books, a self-service kiosk, a centralized LMIS database, and an administrative dashboard. The design is intended to associate each RFID identifier with bibliographic records, user accounts, and transaction histories, thereby supporting coordinated circulation and inventory management. However, the proposed design does not assume that all advanced smart-library components, such as RFID-enabled smart shelves or indoor positioning infrastructure, will be deployed.

Information Requirements and System Functions

An RFID-based LMIS requires accurate bibliographic records, user identification data, RFID tag identifiers, book availability information, and borrowing and returning histories. These data enable the system to associate physical library materials with their corresponding digital records and transaction status. Existing systems, such as SmartLibrary developed by Aguila and Balba (2025), demonstrate the integration of circulation, catalog access, inventory management, and administrative reporting. Such implementations provide a basis for identifying the information and functions required by the proposed CatSU system.

In this study, the information requirements and system features are assessed through stakeholder responses. The assessment covers bibliographic information, user records, transaction histories, real-time availability, RFID integration, book searching, inventory monitoring, overdue alerts, and role-based access. This requirements-focused approach is intended to establish which functions should be prioritized before proceeding to full-scale implementation.

Technical and Operational Feasibility

Technical feasibility concerns the availability and suitability of the hardware, software, database, network, and technical support required to operate an RFID-based LMIS. Xu et al. (2024) demonstrated the importance of integrating RFID with a suitable network architecture, while the implementation reported by Aguila and Balba (2025) illustrates how RFID components can be combined with application software and database technologies. These studies indicate that system feasibility must be evaluated in terms of the complete technological environment rather than RFID equipment alone.

Operational feasibility, meanwhile, concerns the compatibility of the proposed system with established library procedures and the capacity of staff and users to adopt new workflows. Self-service checkout may reduce reliance on manual transaction processing, but its practical value depends on usability, staff readiness, reliable transaction recording, and adequate user support. Accordingly, the proposed SMART CATSU system considers both operational requirements and infrastructure readiness when assessing its suitability for CatSU Library.

Existing RFID-based library systems support automated circulation, self-service transactions, inventory management, catalog access, and administrative monitoring, while advanced applications incorporate intelligent book positioning and IoT-based network architectures (Li, 2022; Xu et al., 2024; Hu et al., 2024; Aguila & Balba, 2025). Thus, the innovation of the present study does not lie in introducing RFID technology but in determining how these established capabilities can be integrated into a system suited to Catanduanes State University (CatSU) Library. Specifically, the study assesses stakeholder requirements, prioritizes circulation and inventory management functions, and examines perceived operational and technical feasibility before implementation. Its system-design contribution is a proposed web-based kiosk architecture integrating RFID-enabled book identification, centralized bibliographic and transaction records, self-service checkout, inventory monitoring, and administrative oversight within a unified platform. Methodologically, it employs a stakeholder-based feasibility assessment to identify priority requirements and

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infrastructure readiness concerns. The findings provide institution-specific guidance for subsequent prototype development and testing. However, because the study does not include full-scale implementation or actual infrastructure testing, its contribution is limited to preliminary requirements analysis and feasibility assessment rather than empirical evidence of improved system performance.

Methodology

Research Design

This study used a feasibility study to design and to develop a system. According to RN College (n.d), a feasibility study is a method for analyzing an initial inquiry that can help on identifying the features of a system needed by the users. It determines whether it is possible to create a new system or enhance an existing one, and it offers precise estimates for future system development. Through this procedure, the feasibility study describes the nature of the issue and establishes whether there is a workable and suitable solution. Rather than trying to solve the problem, its primary goal is to identify and comprehend its scope. A formal system proposal that functions as a decision document and outlines the full scope and nature of the proposed system is the result of a feasibility study. In this study, the feasibility study used by the researcher is considered appropriate for the study since it sought to identify the needed features of a system to be designed and developed by the researcher.

Research Locale

The study was conducted at Catanduanes State University (CatSU) Library in Catanduanes, Philippines. The university library serves students, faculty members, and administrative personnel by providing academic resources and information services that support teaching, learning, and research. It was selected as the research locale because the study aimed to assess the information requirements, system functions, and operational and technical feasibility of a proposed RFID-based Library Management System suited to the institution's library operations. The study focused on the proposed integration of RFID-enabled book identification, self-service checkout, inventory monitoring, and administrative management. Data were gathered from thirteen (13) purposively selected respondents comprising students, administrative personnel, and relevant stakeholders. The research locale provided the institutional context for identifying system requirements and assessing perceived infrastructure readiness before potential system implementation. However, the study did not involve full-scale deployment or actual infrastructure testing at the university library.

Research Participants

The participants of the study consisted of thirteen (13) purposively selected individuals from Catanduanes State University (CatSU), including students, administrative personnel, and relevant stakeholders with knowledge or experience related to library services and system requirements. They were selected based on their potential to provide meaningful insights into the design and feasibility assessment of the proposed RFID-based Library Management System. Their participation focused on identifying the essential information requirements, functions, and features of the proposed system and assessing its operational and technical feasibility. Data were collected through a structured survey questionnaire using a five-point Likert scale. The participants' responses served as the basis for identifying priority system requirements, evaluating perceived usability and operational benefits, and determining concerns regarding hardware availability, network infrastructure, and institutional readiness. Participation was voluntary, and informed consent was obtained before data collection. Given the small, purposively selected group, the findings reflect the perspectives of the participants and should not be interpreted as representative of the entire CatSU community.

Research Instrument

The study used a researcher-developed structured survey questionnaire as the primary data-gathering instrument to determine the information requirements, essential functions and features, and operational and technical feasibility of the proposed RFID-based Library Management System for Catanduanes State University (CatSU) Library. The questionnaire was designed in accordance with the research objectives and the specific requirements of the proposed system. The questionnaire consisted of sections covering the respondents' profiles, system design and information requirements, proposed functions and features, operational feasibility, and technical feasibility. The items focused on bibliographic information management, user records, book availability, transaction history, RFID integration, automated borrowing and returning, inventory monitoring, overdue notifications, system usability, hardware availability, network infrastructure, and technical support. A five-point Likert scale was used to measure the respondents' level of

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https://ijroms.com
Original Article

agreement with each statement, ranging from 5 (Strongly Agree) to 1 (Strongly Disagree). The responses were analyzed using frequency distribution and weighted mean to summarize the participants' assessments and determine the priority requirements and perceived feasibility of the proposed system. The resulting data provided the basis for identifying essential system features and infrastructure considerations for future development and implementation.

Data Gathering Procedure

The data collection process followed a systematic and ethical approach. The researcher first sought formal permission from library administrators before conducting interviews. Upon approval, participants were provided with informed consent forms explaining the purpose of the study, ensuring confidentiality, and emphasizing the voluntary nature of participation. This procedure aligns with the ethical standards outlined by the American Library Association (ALA, 2020). After obtaining approval, the researcher informed the selected participants about the research topic and the importance of their responses in contributing to the study. Participants were also assured that all data collected would be securely stored, used solely for research purposes, and would not infringe upon their rights. Furthermore, participants were informed of their right to decline to answer any questions or to withdraw from the study at any time without penalty.

Results and Discussions

Research Question 1: To determine the needed information in the design and development of the proposed Library Management Information System for Catanduanes State University.

Table 1. Needed Information in the Design and Development of the Proposed Library Management Information System for Catanduanes State University

Indicators	5	4	3	2	1	Weighted Mean	Quantitative Interpretation	Qualitative Interpretation
1. The system should store complete bibliographic information of library books.	10	3	0	0	0	4.77	5	Strongly Agree
2. User information (e.g., name, ID number, user type) should be accurately recorded in the system.	12	1	0	0	0	4.92	5	Strongly Agree
3. The system should maintain real-time records of book availability.	11	2	0	0	0	4.85	5	Strongly Agree
4. Transaction history (borrowing, returning, and renewal) should be stored and retrievable.	11	2	0	0	0	4.85	5	Strongly Agree
5. RFID tag information should be integrated into the book records.	11	2	0	0	0	4.85	5	Strongly Agree
6. The system should generate reports needed for library decision-making.	11	2	0	0	0	4.85	5	Strongly Agree
Grand Mean						**4.85**	**5**	**Strongly Agree**

Table 1 presents the respondents' assessments of the information requirements of the proposed RFID-based Library Management Information System (LMIS). All indicators received weighted means ranging from 4.77 to 4.92, with a grand mean of 4.85, interpreted as Strongly Agree. Accurate recording of user information, including names, identification numbers, and user types, obtained the highest weighted mean of 4.92. This result highlights the importance respondents placed on maintaining reliable user records. Accurate identification is essential in circulation management because each borrowing transaction must be associated with the correct borrower, the corresponding library material, and the applicable loan record. In an RFID-based system, the tag identifies the physical book, while the database links the tag identifier to bibliographic information and transaction records. RFID alone does not verify a borrower's identity; therefore, appropriate user authentication and database controls remain necessary.

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https://ijroms.com
Original Article

The indicators for real-time book availability, transaction history, RFID tag integration, and report generation each obtained a weighted mean of 4.85. These results suggest that respondents recognized the importance of maintaining consistent records and making information accessible for circulation and administrative purposes. Complete bibliographic information received the lowest weighted mean of 4.77, although it was still interpreted as Strongly Agree. This finding does not indicate that bibliographic records are unimportant; rather, all six indicators received favorable assessments, with accurate user information receiving the strongest relative emphasis.

These findings are consistent with the integrated approach to library automation described by Aguila and Balba (2025), whose SmartLibrary system combined RFID with circulation, inventory management, catalog access, and administrative functions. Similarly, Mulyono et al. (2025) examined RFID-based library services incorporating catalog access, borrowing and returning, reservations, and administrative functions. These studies illustrate the importance of connecting item identification with information management processes. For CatSU, the results support prioritizing accurate user records, reliable book identification, and synchronized transaction histories during system design. Implementation should also establish procedures for updating records, correcting inaccurate data, and protecting borrower information.

Research Question 2: To determine the functions and features of the Library Management Information System.

Table 2. Functions and features of the Library Management Information System

Indicators	5	4	3	2	1	Weighted Mean	Quantitative Interpretation	Qualitative Interpretation
1. The system should allow automated book check-in and check-out using RFID.	9	4	0	0	0	4.69	5	Strongly Agree
2. The system should support quick book tracking and inventory management.	12	1	0	0	0	4.92	5	Strongly Agree
3. Users should be able to search books easily through the system.	12	1	0	0	0	4.92	5	Strongly Agree
4. The system should send alerts for overdue books.	11	2	0	0	0	4.85	5	Strongly Agree
5. The system should reduce manual work for librarians and staff.	10	3	0	0	0	4.77	5	Strongly Agree
6. The system should provide secure access for different types of users.	11	2	0	0	0	4.85	5	Strongly Agree
Grand Mean						**4.83**	**5**	**Strongly Agree**

Table 2 presents the respondents' assessments of the proposed system's functions and features. The indicators received weighted means ranging from 4.69 to 4.92, with a grand mean of 4.83, interpreted as Strongly Agree. Quick book tracking and inventory management and easy book searching obtained the highest weighted means of 4.92. These results indicate that respondents particularly valued the ability to locate library materials and determine their availability efficiently. Such functions can support resource discovery and inventory monitoring by connecting RFID identifiers with searchable bibliographic records and circulation status.

Automated book check-in and check-out using RFID received the lowest weighted mean of 4.69. Although comparatively lower than the other indicators, the result still represents strong agreement. The difference may indicate that respondents placed greater immediate emphasis on locating and searching for books than on automating circulation transactions. However, the survey did not investigate the reasons for this difference; therefore, it cannot establish whether respondents had concerns about kiosk usability, transaction procedures, authentication, or RFID reliability. These possibilities should be explored through follow-up consultations and prototype testing.

The remaining features, including overdue alerts, reduced manual workload, and secure access for different user types, obtained weighted means between 4.77 and 4.85. Collectively, the findings suggest that respondents favored an integrated system that combines resource discovery, circulation, and administrative functions. This is consistent with Aguila and Balba (2025), who integrated RFID-based circulation and inventory management with catalog and administrative features, and Mulyono et al. (2025), who incorporated online circulation and other digital library services. Xu et al. (2024) further demonstrated the relevance of connecting RFID devices with networked information systems in a smart-library architecture.

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Volume 1, Issue 10, pp. 68-76, November 2026
https://ijroms.com
Original Article

For CatSU, these findings suggest that implementation planning should prioritize book search, accurate inventory records, and a reliable circulation workflow. Although self-checkout received the lowest feature score, it remains a strongly supported requirement and should not be excluded from the proposed system. Instead, its workflow should be tested to ensure that book identification, borrower authentication, loan validation, and transaction confirmation operate correctly. The system should also provide clear instructions and an alternative staff-assisted process when a tag cannot be read or a transaction requires intervention.

Research Question 3: To determine the level of operational and technical feasibility of the proposed Library Management Information System.

Table 3. Operational and technical feasibility of the proposed Library Management Information System

Indicators	5	4	3	2	1	Weighted Mean	Quantitative Interpretation	Qualitative Interpretation
1. The proposed system should be easy to use for library staff and users.	11	2	0	0	0	4.85	5	Strongly Agree
2. The system should improve the efficiency of library operations.	11	2	0	0	0	4.85	5	Strongly Agree
3. Library staff should be willing to use the proposed RFID-based system.	8	5	0	0	0	4.62	5	Strongly Agree
4. The system should help reduce errors in book transactions.	10	3	0	0	0	4.77	5	Strongly Agree
5. The university should have the necessary hardware to support the RFID system.	3	6	2	1	1	3.69	4	Agree
6. The existing network infrastructure should support the proposed system. types of users.	6	3	3	0	1	4.00	4	Agree
7. The system should integrate with current library operations.	8	4	1	0	0	4.54	5	Strongly Agree
8. Technical support and maintenance can be provided by the institution.	9	4	0	0	0	4.69	5	Strongly Agree
GRAND MEAN						**4.50**	**5**	**Strongly Agree**

Table 3 presents the respondents' assessments of the operational and technical feasibility of the proposed LMIS. The grand mean was 4.50, interpreted as Strongly Agree, indicating an overall favorable assessment. Ease of use for library staff and users and the potential to improve library operations both received weighted means of 4.85. The ability to reduce transaction errors obtained a weighted mean of 4.77, while staff willingness to use the proposed system received 4.62. These findings indicate that respondents generally viewed the proposed system as compatible with the library's operational needs and considered usability and efficiency important factors in its potential adoption.

However, these ratings reflect respondents' expectations rather than measured improvements in operational performance. Without a functioning system and comparative transaction data, the study cannot establish that the proposed LMIS will actually reduce errors, shorten queues, or improve processing speed. Queueing Theory provides a useful conceptual basis for examining potential changes in waiting time, but these effects would need to be assessed through prototype testing and actual transaction measurements.

Infrastructure-related indicators received comparatively lower ratings. The availability of necessary hardware obtained a weighted mean of 3.69, while network infrastructure support received 4.00; both were interpreted as Agree. The hardware indicator was the lowest-rated item in Table 3. These results suggest that respondents were less certain about the institution's existing technological readiness than about the proposed system's usability and operational value. However, the survey does not establish which specific devices, network components, or technical resources are currently unavailable. Consequently, the findings should be interpreted as identifying areas requiring further assessment rather than confirming that the university lacks the necessary infrastructure.

This distinction is important when considering the integrated architectures discussed by Xu et al. (2024) and the RFID-based library functions described by Aguila and Balba (2025) and Mulyono et al. (2025). Such systems depend on coordinated hardware, software, databases, and network connectivity. For CatSU, the feasibility findings indicate the need to conduct an infrastructure audit before deployment,

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Volume 1, Issue 10, pp. 68-76, November 2026
https://ijroms.com
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covering RFID tags and readers, kiosk equipment, network coverage and reliability, database hosting, power requirements, and technical support. The university should also evaluate tag readability under actual library conditions and establish procedures for handling network interruptions, failed transactions, and discrepancies between physical materials and digital records.

The operational findings likewise support providing staff training, preparing user instructions, and conducting pilot testing before full deployment. These measures would help determine whether the proposed workflow fits existing circulation procedures and whether users can complete transactions reliably. A pilot evaluation should measure transaction completion time, identification errors, inventory discrepancies, failed RFID reads, system availability, and user satisfaction. Such evidence would allow the university to determine whether the proposed system delivers the expected operational benefits.

Ethical Considerations

The study observed ethical principles concerning voluntary participation, informed consent, confidentiality, and the protection of respondents' personal information. Participants were informed of the study's purpose, the nature of their participation, and their right to decline or withdraw without penalty. Informed consent was obtained before data collection. Permission to conduct the study was obtained from the research adviser and appropriate institutional administrators; however, administrative permission is distinct from formal ethics review. The ethics review status must therefore be accurately documented, including the name of the Ethics Review Committee or Institutional Ethics Committee, approval status, reference number, if applicable, and date of approval. If formal ethics review was not conducted, this should be stated transparently, together with any applicable institutional determination regarding the review requirement. Respondents' information and survey responses were handled confidentially in accordance with the Philippine Data Privacy Act of 2012 (Republic Act No. 10173) and applicable institutional policies. Research records should be accessible only to authorized personnel, stored securely, and reported in aggregate form whenever possible to minimize the risk of identifying participants. The data shall be retained according to applicable institutional research policies and securely disposed of after the prescribed retention period through permanent deletion of electronic files and secure destruction of physical records, subject to applicable legal and institutional requirements. The final report should specify the actual retention period, storage arrangements, responsible custodian, and disposal procedures to ensure transparency and accountability in research data management.

Conclusion

The study aimed to design and develop a Library Management System for Catanduanes State University that is efficient, user-friendly, and technically feasible. Based on the survey results and analysis, the following conclusions can be drawn. First, all functional requirements of the proposed Library Management System received very high weighted means, ranging from 4.77 to 4.92, indicating strong agreement among respondents. The highest weighted mean of 4.92 was observed for the accurate recording of user information, including name, ID number, and user type, highlighting the importance of proper user data management. The lowest weighted mean of 4.77 was for storing complete bibliographic information of library books, which, despite being the lowest, still reflects strong approval. Overall, the grand mean of 4.85 demonstrates that respondents strongly agree that the system effectively meets essential operational and information management requirements. Second, features related to usability, efficiency, and automation were highly valued by respondents. Quick book tracking, inventory management, and easy book search received the highest weighted means of 4.92, emphasizing the importance of efficient resource management. Automated book check-in and check-out using RFID scored 4.69, which, while slightly lower, still reflects strong agreement. Other features, including sending overdue alerts, reducing manual work for library staff, and providing secure access for different users, scored between 4.77 and 4.85, further indicating strong support. Overall, the grand mean of 4.83 demonstrates that respondents strongly agree ssthese features will enhance library operations and improve the user experience. Lastly, usability and operational efficiency indicators received the highest weighted mean of 4.85, showing strong agreement that the system should be easy to use and improve library operations. The willingness of staff to adopt the system scored 4.62, while the system's ability to reduce errors in transactions received a weighted mean of 4.77, reflecting strong support. Indicators related to infrastructure readiness were slightly lower, with necessary hardware scoring 3.69 and network support 4.00, both interpreted as "Agree," suggesting minor improvements are needed. Overall, the grand mean of 4.50 indicates a highly favorable perception of the system's feasibility and readiness for adoption.

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https://ijroms.com
Original Article

Recommendations

Based on the findings and conclusions of this study, the following recommendations are proposed to ensure the effective implementation and utilization of the Library Management Information System (LMIS) at Catanduanes State University. Implementation of the Library Management System, given the strong agreement among respondents regarding the system's functional requirements, it is recommended that the LMS be formally implemented in the university library. Proper recording of user information and comprehensive bibliographic data management should be prioritized to ensure accurate and efficient library operations. Enhancement of Usability and Efficiency Features, features such as quick book tracking, inventory management, and easy book search should be fully integrated to maximize operational efficiency. Automated check-in and check-out processes using RFID should be implemented to streamline routine tasks, reduce manual work, and improve overall user experience. Training and Capacity Building, library staff should be provided with adequate training on using the LMIS to ensure smooth adoption. This will help address minor concerns regarding usability and operational efficiency and increase the willingness of staff to fully utilize the system. Infrastructure Improvement, minor improvements in the library's hardware and network support are recommended to ensure the system operates seamlessly. Upgrading necessary equipment and enhancing network connectivity will improve system reliability and support efficient library operations.

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