



Assessment of Library System Readiness and Requirements Analysis for Developing a Standards-Compliant E-Library Framework in Higher Education Institutions

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ABSTRACT

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e-library system, digital library transformation, library system readiness, requirements analysis, higher education institutions, library automation, information systems development

The digital transformation of higher education institutions (HEIs) has increased the need for efficient and accessible electronic library systems. However, many academic libraries continue to rely on traditional or partially automated processes, creating challenges in resource accessibility, service delivery, and system integration. This study evaluates the readiness of existing library processing systems and identifies the requirements for developing a standards-compliant e-library framework for HEIs. A descriptive quantitative research design was employed using a structured Likert-scale questionnaire administered to 100 respondents, including students, faculty members, administrators, librarians, and information technology staff from five HEIs in Cavite and Laguna, Philippines. Descriptive statistics, including frequency, weighted mean, and standard deviation (SD), were applied to analyze current library services and usage, awareness and perceived compliance with library standards, expected e-library features, and institutional support for system development. The findings indicate favorable perceptions of existing library services, while respondents identified the need for improved access to digital resources, remote availability, searchable academic collections, and integrated user support services. Significant positive relationships were also observed among the assessed factors, particularly between expected e-library features and institutional support. Based on these findings, the study proposes a conceptual e-library framework incorporating user requirements, institutional conditions, and regulatory considerations. The proposed framework provides a foundation for future development and implementation of sustainable digital library systems in higher education environments.

1. INTRODUCTION

Digital transformation continues to influence educational environments, with many higher education institutions (HEIs) adopting digital technologies to help produce graduates with competitive skills [1]. This shift has also increased the need to modernize library systems, which play an important role in supporting academic learning and research in HEIs. Traditional library processing systems commonly involve cataloging, circulation, and inventory management. However, many HEIs still rely on semi-automated or manual systems, which may affect productivity, resource access, and user satisfaction. In the Philippines, libraries have also faced challenges in meeting the growing demand for readily accessible digital content [2]. As e-learning, remote access to educational materials, and digital literacy continue to grow, the need for e-library systems has also increased. These systems can improve access to resources, make library services more efficient, and better respond to the needs of students.

The use of library resources has also changed, with users increasingly turning to digital sources. This shift has encouraged libraries to assess their processing systems to

determine whether they remain efficient and relevant [3]. The quality of library processing is closely related to the services provided to students and faculty, particularly in terms of timely cataloging, resource availability, and ease of use [4]. In the Philippines, the Commission on Higher Education (CHED) sets standards for library operations, covering areas such as physical space, staffing, resource acquisition, and the use of information and communication technology (ICT) through CHED Memorandum Order No. 22, Series of 2021 [5]. Awareness of and compliance with these guidelines are important in maintaining library services that support national educational goals and quality assurance requirements. Although HEIs are generally aware of CHED guidelines, gaps may still exist in their implementation, particularly in the adoption of integrated library systems and the availability of digital content. Several studies have also identified limited administrative support, financial resources, and ICT infrastructure as factors that can hinder institutions from providing efficient library information services [6-9].

To keep pace with the changing needs of research and learning, HEIs need to adopt appropriate digital technologies. Thangiah et al. [9] identified the expansion of digital collections, improvement of service delivery, adoption of new

technologies, development of a digital culture, and promotion of accessibility and inclusivity as important areas of digital transformation. These areas suggest that successful digital library development involves more than adopting new technologies. It also requires institutional conditions that can support and sustain these services.

The development and long-term sustainability of an e-library also depend on institutional commitment, including funding, policy development, infrastructure support, and capacity building [10]. Cox et al. [11] emphasized the importance of leadership support in integrating library services with broader institutional goals and promoting innovation. Strategic and organizational changes are likewise needed to support digital transformation [12]. Institutional support also includes training library staff to manage and maintain e-library systems and developing digital literacy among users. Thus, establishing an e-library requires not only appropriate technological infrastructure but also continued institutional support.

1.1 Conceptual and theoretical framework

This study adopts the input–process–output (IPO) framework, as shown in Figure 1, as a way of showing how the evaluation of an existing library processing system has aided in the process of coming up with a recommended e-library system that conforms to CHED standards. As such, this is represented in this framework by the inputs, which consist of the necessary information gathered from the respondents, the processes involved in the analysis and engineering of the system, and the outputs that are engineering artifacts derived from the analysis.

The input in this case entails the four main aspects that were analyzed in the research: existing library services and usage, level of awareness of the CHED library guidelines and perceived compliance with the said guidelines, desired features and expectations of the e-library system, as well as perceived institutional support in relation to system development. These variables form the requirements and thus the basis for systems design.

This stage consists of sending out the survey, gathering answers from stakeholders, doing statistics with the use of frequency analysis, weighted mean, and standard deviation (SD), interpreting data, and converting the identified requirements into engineering specifications. This concept includes the phases of requirements engineering, system analysis, workflow design, and architecture planning.

The result is a CHED-compliant e-library system that uses the information systems engineering framework. The product includes the concept of the system architecture, workflow model, functional and non-functional requirements, and suggested guidelines for implementation.

Despite the growing literature on digital libraries, e-resources, user satisfaction, and ICT infrastructure, limited research has integrated these concerns to assess library processing systems as a basis for e-library development in Philippine HEIs. Existing studies often focus on individual aspects rather than examining current library services and usage, CHED guidelines, e-library features and expectations, and institutional support together. Thus, this study addresses the gap by providing a descriptive assessment of these four areas to identify strengths, gaps, and institutional conditions that can guide e-library development.

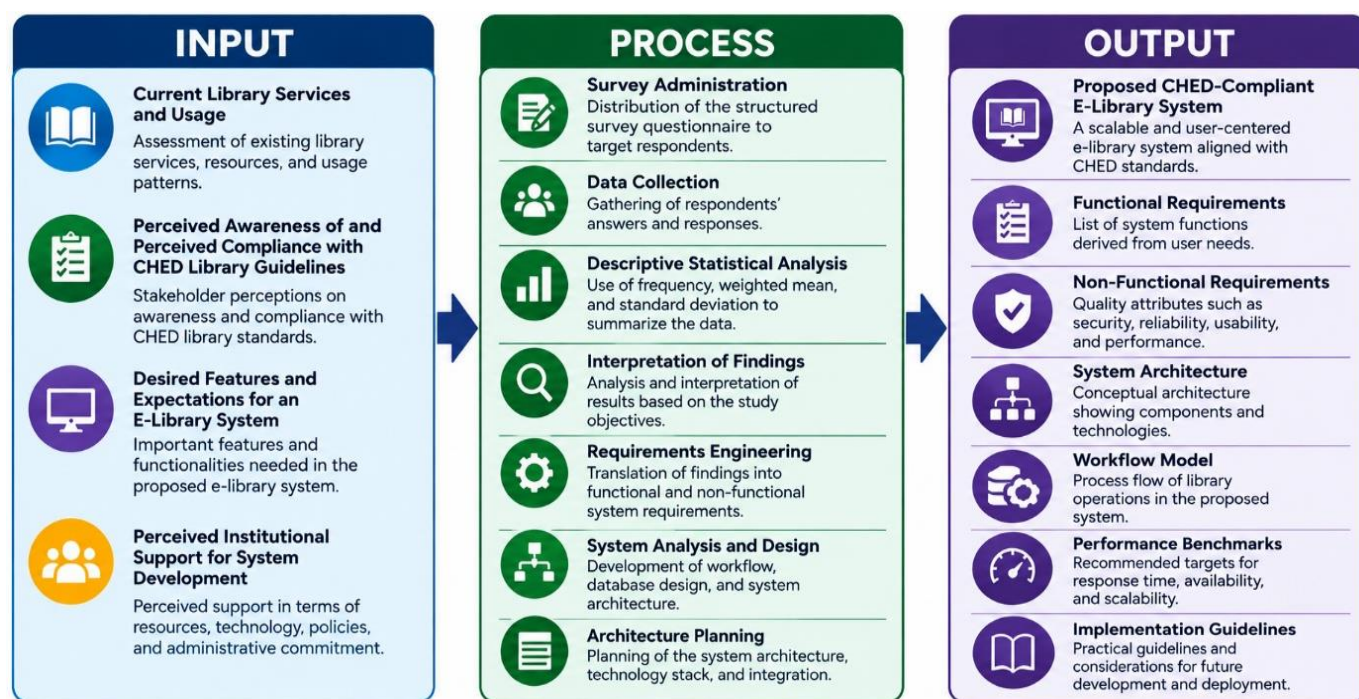


Figure 1. Input-process-output (IPO) conceptual framework

1.1.1 Objectives

This study aims to assess the existing library processing system of a selected HEI. The findings will serve as a foundation for the design and development of a comprehensive e-library system.

Specifically, the study seeks to answer the following

questions:

1. What is the current status of library services and usage?
2. What is the level of awareness and compliance with CHED guidelines?
3. What are the desired features and expectations for the e-library system?

4. What forms of institutional support can be provided for e-library system development?

5. Is there a significant relationship among current library services and usage, awareness and compliance with CHED guidelines, features and expectations of the e-library system, and institutional support for system development?

1.1.2 Hypothesis

H0: There is no significant relationship among current library services and usage, awareness and compliance with CHED guidelines, features and expectations of the e-library system, and institutional support for system development.

2. METHODOLOGY

2.1 Research design

A descriptive research design was employed to examine the existing library processing system. This design was appropriate because it allowed for systematic description of existing processes, practices, and conditions within the library. Through descriptive analysis, the study documented the current workflow and identified areas requiring improvement.

2.2 Sample and sampling technique

A non-probability sampling technique was used to select the participants based on their accessibility, availability, and proximity to the researchers. The study involved 100 participants from five universities in Cavite and Laguna, Philippines. These included 9 faculty members, 71 students, 10 administrators, 7 librarians, and 3 IT staff members.

2.3 Research locale

This research was carried out among several higher education establishments situated in Cavite and Laguna provinces in the Philippines. The reason for choosing these institutions was that they offer various types of academic settings with different levels of library automation and usage of digital resources. By selecting multiple institutions, the researchers have received more comprehensive information about the existing library processes.

2.4 Operational definition of terms

The following operational definitions have been established for the purpose of uniformity in the research:

2.4.1 Library processing system

The currently used system of processes for cataloging, circulating, managing an inventory, and retrieving information at institutions of higher education.

2.4.2 E-library system

An online system meant to manage e-library resources, to automate library functions, and to make electronic documents accessible.

2.4.3 Perceived Commission on Higher Education compliance

The respondents' ideas regarding the degree of similarity between their institution's library services and the library standards imposed by CHED. This concept reflects only the

respondents' perceptions and does not serve as an external audit of the compliance of the library services.

2.4.4 Institutional support

The level of perceived availability of the necessary institutional resources, commitment of administration, financial means, and technical capacity for implementing the e-library system.

2.5 Instrumentation

The questionnaire was reviewed by subject matter experts from the fields of library science, educational management, and information systems. They evaluated the survey items in terms of relevance, clarity, and appropriateness. The questionnaire was revised based on their comments and suggestions. A pilot test was then conducted, and Cronbach's alpha was used to determine the reliability of the instrument. The reliability coefficients were 0.948 for current library services and usage, 0.957 for awareness and compliance with CHED guidelines, 0.975 for features and expectations of the e-library system, and 0.950 for institutional support and system development. All coefficients were above 0.70, indicating that the items under each variable had good internal consistency.

2.6 Ethical considerations

An informed consent letter was given to each participant before the data were collected. The purpose of the study was also explained to them. The information provided by the participants was kept confidential, and their identities were not disclosed in accordance with the Data Privacy Act of 2012, which aims "to protect the fundamental human right of privacy and communication while ensuring the free flow of information to promote innovation and growth." Pseudonyms were used to protect the identity of the participants and the information they provided.

2.7 Data gathering procedure

Quantitative data were collected through an online Likert-scale questionnaire administered to the 100 participants. Before the survey was conducted, the researchers prepared an informed consent letter and sent it to the participants. They provided their consent by signing the document electronically. The participants were selected based on their accessibility, availability, and proximity to the researchers. Their familiarity with ICT also allowed them to understand and answer the survey items.

2.8 Data analysis

The collected data were analyzed using frequency, mean, and SD to assess the existing library processing system. A five-point Likert scale was used to interpret the responses. The ranges were 1.00–1.80 for Strongly Disagree, 1.81–2.60 for Disagree, 2.61–3.40 for Neutral, 3.41–4.20 for Agree, and 4.21–5.00 for Strongly Agree.

Table 1 shows the data analysis mapping used in the study. It shows the relationship among the statement of the problem, objectives, data, instruments, and statistical analyses. The mapping was used to check whether the data and statistical analyses were aligned with the objectives of the study.

Table 1. Data analysis mapping

Statement of the Problem	Objective	Data	Instrument	Analysis
1. What is the current status of library services and usage?	To identify the current library services and usage based on the users' responses.	Survey results	Survey	Statistical analysis
2. What is the level of awareness and compliance with CHED guidelines?	To identify the level of awareness and compliance with CHED guidelines among the users.	Survey results	Survey	Statistical analysis
3. What are the desired features and expectations for the e-library system?	To identify the desired features and expectations for the e-library system.	Survey results	Survey	Statistical analysis
4. What forms of institutional support can be provided for system development?	To identify the institutional support that can be provided for system development.	Survey results	Survey	Statistical analysis

Note: CHED = Commission on Higher Education.

3. RESULTS AND DISCUSSION

The results are presented in five areas: (1) profile of the respondents; (2) current library services and usage; (3) awareness and compliance with CHED guidelines; (4) features and expectations of the e-library system; and (5) institutional support for system development. The findings are discussed in relation to the responses of the participants, identified gaps, related studies, and applicable CHED recommendations.

A total of 100 respondents participated in the study, consisting of faculty members, students, administrators, librarians, and IT staff (Table 2). Students made up the largest group at 71%, followed by administrators at 10%, faculty members at 9%, librarians at 7%, and IT staff at 3%. The respondents represented different groups who use, manage, or support library services and may be involved in the development of an e-library system.

Table 3 shows that 56% of the respondents were female, while 44% were male. The distribution indicates slightly higher participation among female respondents. This finding is consistent with data from the Philippine Statistics Authority (PSA), which reported a higher proportion of female enrollees [13].

Table 2. Distribution of respondents by institutional role

Position (Role in the Institution)	Frequency	Percentage
Faculty	9	9%
Students	71	71%
Administrator	10	10%
Librarian	7	7%
IT Staff	3	3%
Total	100	100%

Table 3. Distribution of respondents by sex

Sex	Frequency	Percentage
Male	44	44%
Female	56	56%
Total	100	100%

Table 4. Distribution of respondents by length of affiliation with the institution

Years in the Institution	Frequency	Percentage
Less than 1 year	14	14%
1–3 years	79	79%
4–6 years	0	0%
More than 6 years	7	7%
Total	100	100%

Regarding length of stay in the institution, 79% of the respondents had been in the institution for 1–3 years, while 14% had been there for less than one year and 7% for more than six years. No respondents had been in the institution for 4–6 years (Table 4). This shows that most respondents had been in the institution for 1–3 years. Their length of stay may have influenced their familiarity with the existing library processes and systems.

A five-point Likert scale was used to assess the respondents' perceptions of current library services and usage, awareness and compliance with CHED guidelines, features and expectations of the e-library system, and institutional support for system development. A score of 5 represented Strongly Agree, while a score of 1 represented Strongly Disagree.

Table 5 presents the respondents' assessment of current library services and usage. Indicator 3, which assessed the user-friendliness and accessibility of the current library system, obtained the highest weighted mean of 4.08, with an SD of 0.99. This shows that the respondents found the current system easy to use and accessible. This finding is consistent with Osimehta [14], who emphasized the importance of satisfaction with e-resource use in supporting academic work.

Indicator 1 obtained the second-highest weighted mean of 3.97 (SD = 1.05), showing that the respondents agreed that their institutions provided adequate digital library resources. Indicators 4 and 5 obtained weighted means of 3.79 (SD = 1.20) and 3.87 (SD = 1.19), respectively. The respondents also agreed that they could access library resources remotely and retrieve academic materials digitally.

Indicator 2 obtained the lowest weighted mean of 3.68 (SD = 1.25). Although the respondents agreed that they frequently accessed digital library resources, this indicator received the lowest rating among the five indicators. This may indicate that the frequency of using digital library resources was lower than the respondents' ratings for the other aspects of library services.

Overall, current library services and usage obtained a weighted mean of 3.88 (SD = 1.14), corresponding to the adjectival rating "Agree." The respondents generally viewed the current library services positively in terms of accessibility, usability, and availability. However, the lower rating for the frequency of digital resource use shows that there is still room to improve the use of digital library resources.

Table 6 presents the respondents' assessment of awareness and compliance with CHED guidelines. Indicator 5 obtained the highest weighted mean of 4.19 (SD = 0.98). The respondents agreed that adherence to CHED standards helps ensure the quality and accessibility of digital library services [15].

Indicator 3 obtained a weighted mean of 3.98 (SD = 1.10), followed by Indicator 2 at 3.94 (SD = 1.12) and Indicator 4 at

3.91 (SD = 1.14). The respondents agreed that the institution prioritized CHED compliance, that the current library services aligned with CHED standards, and that orientations or updates on CHED standards were provided to staff and faculty.

Indicator 1 obtained the lowest weighted mean of 3.80 (SD = 1.30). This indicator focused on the respondents' awareness of CHED guidelines on library services and digital resource access. Although the rating was still "Agree," it was lower than

the other indicators. This shows that awareness of CHED guidelines can still be improved.

Overall, awareness and compliance with CHED guidelines obtained a mean of 3.96 (SD = 1.13), corresponding to the adjectival rating "Agree." The respondents generally agreed with the statements on CHED awareness and compliance. However, the lower rating for awareness shows that additional orientation on CHED guidelines may be needed.

Table 5. Respondents' assessment of current library services and usage

Indicator	Weighted Mean	Standard Deviation (SD)	Adjectival Rating
1. The institution currently provides adequate digital library resources.	3.97	1.05	Agree
2. I frequently access digital library resources such as e-books or journals.	3.68	1.25	Agree
3. The current library system is user-friendly and accessible.	4.08	0.99	Agree
4. I am able to access library resources remotely when needed.	3.79	1.20	Agree
5. I find it easy to search and retrieve academic materials digitally.	3.87	1.19	Agree
Overall Mean	3.88	1.14	Agree

Table 6. Respondents' assessment of awareness and compliance with Commission on Higher Education (CHED) guidelines

Indicator	Weighted Mean	Standard Deviation (SD)	Adjectival Rating
1. I am aware of CHED guidelines on library services and digital resource access.	3.80	1.30	Agree
2. The current library services in our institution align with CHED standards.	3.94	1.12	Agree
3. The institution prioritizes compliance with CHED policies in library development.	3.98	1.10	Agree
4. Regular orientation or updates about CHED standards are provided to staff and faculty.	3.91	1.14	Agree
5. Adhering to CHED standards ensures quality and accessibility in digital library services.	4.19	0.98	Agree

Table 7. Respondents' assessment of expected features of the e-library system

Indicator	Weighted Mean	Standard Deviation (SD)	Adjectival Rating
1. An e-library system should provide access to e-books, e-journals, and research databases.	4.42	0.93	Strongly Agree
2. Integration with Learning Management Systems (LMS) would enhance user access and experience.	4.41	0.91	Strongly Agree
3. The e-library should include a searchable thesis/dissertation archive.	4.42	0.91	Strongly Agree
4. Remote access (off-campus) is an essential feature of an e-library.	4.42	0.92	Strongly Agree
5. Real-time librarian support (chat/helpdesk) would improve service delivery.	4.42	0.90	Strongly Agree
Overall Mean	4.42	0.92	Strongly Agree

Table 7 presents the respondents' expectations regarding the features of the e-library system. Indicators 1, 3, 4, and 5 each obtained a weighted mean of 4.42, with SDs ranging from 0.90 to 0.93. These results indicate strong agreement that an e-library system should provide access to e-books, e-journals, and research databases; include a searchable thesis and dissertation archive; provide remote access; and offer real-time librarian support through chat or a helpdesk.

These findings are consistent with studies emphasizing access to e-resources, organized digital resources, and user support services. Somashekhar and Bagalkoti [16] reported that improvements in platform design and technical support can enhance the research environment for users. Similarly, well-trained library staff can contribute to the delivery of user-centered digital services [17]. User-friendly platforms may also contribute to user satisfaction and support digital learning environments [18].

Indicator 2, which addressed integration with Learning Management Systems (LMS), obtained the lowest weighted mean of 4.41 (SD = 0.91). Despite being the lowest-rated indicator, the result remained within the "Strongly Agree" range. This indicates that respondents strongly agreed that LMS integration could enhance user access and experience.

The finding is consistent with Kampa [19], who reported that integrating LMS functionality with library systems can improve the e-learning environment.

The overall mean was 4.42, with an SD of 0.92, corresponding to the adjectival rating "Strongly Agree." The results indicate strong and relatively consistent expectations for the e-library features, particularly in terms of digital resource access, remote accessibility, research support, and integration with existing learning platforms.

Table 8 presents the respondents' assessment of institutional support for e-library system development. Indicator 5, which assessed support for the development and implementation of an e-library system, obtained the highest weighted mean of 4.48 (SD = 0.88). The result shows that the respondents strongly supported the development and implementation of an e-library system.

Indicator 1 obtained a weighted mean of 4.46 (SD = 0.90). The respondents strongly agreed that a well-developed e-library can support teaching, learning, and research. Indicator 2 obtained a weighted mean of 4.38 (SD = 0.92), showing that the respondents were confident in using digital tools and platforms for academic research.

Indicators 3 and 4 each obtained a weighted mean of 4.23,

with SDs of 1.00 and 0.90, respectively. The respondents strongly agreed that the institution was ready to invest in a compliant e-library system and that there was sufficient IT and library staff capacity to manage an e-library.

The overall mean was 4.36 (SD = 0.92), corresponding to

the adjectival rating "Strongly Agree." The results show strong support for e-library development among the respondents. However, the lower ratings for investment readiness and staff capacity show that these areas may need further attention before implementation.

Table 8. Respondents' assessment of institutional support for e-library system development

Indicator	Weighted Mean	Standard Deviation (SD)	Adjectival Rating
1. A well-developed e-library can significantly support teaching, learning, and research.	4.46	0.90	Strongly Agree
2. I am confident in using digital tools and platforms for academic research.	4.38	0.92	Strongly Agree
3. The institution is ready to invest in developing a compliant e-library system.	4.23	1.00	Strongly Agree
4. There is sufficient IT and library staff capacity to manage an e-library.	4.23	0.90	Strongly Agree
5. I support the development and implementation of an e-library.	4.48	0.88	Strongly Agree
Overall Mean	4.36	0.92	Strongly Agree

Table 9. Descriptive statistics of the study variables related to e-library system development

E-Library System Development	Overall Mean	Standard Deviation (SD)	Verbal Interpretation
1. Current library services and usage	3.88	1.14	High
2. Awareness and compliance with CHED guidelines	3.96	1.13	High
3. Features and expectations of the e-library system	4.42	0.92	Very High
4. Institutional support and system development	4.36	0.92	Very High

Table 10. Pearson correlation matrix of the study variables

Variable	1	2	3	4
1. Current library services and usage	—			
2. Awareness and compliance with CHED guidelines	0.884***	—		
3. Features and expectations of the e-library system	0.557***	0.657***	—	
4. Institutional support for system development	0.679***	0.749***	0.902***	—

Note: N = 100. Values are Pearson's correlation coefficients (r). *** $p < 0.001$; CHED = Commission on Higher Education.

Table 9 presents the overall descriptive statistics for the variables examined in the study. Features and Expectations of the E-Library System with an overall mean of 4.38 (SD = 0.89) and Institutional Support for System Development with an overall mean of (SD = 0.86) obtained the highest mean ratings and were interpreted as Very High. These results indicate strong respondent expectations regarding e-library features and strong perceptions of institutional support for system development.

Awareness and Compliance with CHED Guidelines with an overall mean of 4.05 (SD = 1.00) and Current Library Services and Usage with an overall mean of 3.97 (SD = 1.03) were interpreted as High. These results indicate generally favorable perceptions of existing library services and CHED compliance. Taken together, the findings indicate favorable conditions for e-library system development based on the respondents' assessments.

The study examined whether significant relationships existed among current library services and usage, awareness and compliance with CHED guidelines, features and expectations of the e-library system, and institutional support for system development.

These findings are consistent with previous studies emphasizing the importance of institutional support in developing digital library services. Kumar [20] and Kuh et al. [21] highlighted the role of institutional and technological considerations in realizing the potential of digital libraries. The findings also show that available resources and staff capacity are important considerations for e-library development.

Table 10 presents the Pearson correlation coefficients among the study variables. The results revealed significant positive relationships among all variables at $p < 0.001$.

The strongest relationship was observed between features and expectations of the e-library system and institutional support for system development, with $r(100) = 0.902$, $p < 0.001$, indicating a very strong positive association. Current library services and usage were also strongly associated with awareness and compliance with CHED guidelines, with $r(100) = 0.884$, $p < 0.001$. The remaining correlations ranged from 0.557 to 0.749, indicating moderate to strong positive associations among the variables.

Overall, the correlation results indicate that higher ratings in one study variable were significantly associated with higher ratings in the other variables. However, these correlations indicate associations rather than causal relationships. Therefore, the findings support the presence of significant relationships among the study variables but do not establish that one variable directly causes changes in another.

4. CONCLUSION AND RECOMMENDATIONS

4.1 Conclusion

The findings show that the institution was ready for the development of an e-library system. The respondents had favorable perceptions of the current library services and usage, awareness and compliance with CHED guidelines, expected features of the e-library system, and institutional support for system development. They also placed importance on accessibility, digital resources, remote access, user support, and integration with existing institutional platforms.

Pearson correlation analysis showed significant positive relationships among current library services and usage,

awareness and compliance with CHED guidelines, features and expectations of the e-library system, and institutional support for system development ($p < 0.001$). The strongest relationship was between the expected features of the e-library system and institutional support for system development. This shows that the variables were significantly related to one another.

Based on the correlation results, the null hypothesis was rejected. The findings also show that developing an e-library system involves more than providing the necessary technology. Institutional support, compliance with CHED guidelines, digital resources, and user needs also need to be considered. Based on these findings, the institution may proceed with the development of a sustainable, standards-compliant, and user-centered e-library system to support access to information resources, teaching, learning, and research.

4.2 Recommendations

Based on the findings and conclusions of the study, the following recommendations are proposed:

1. Before implementing the e-library system, the institution should assess its technical and organizational readiness, including network capacity, infrastructure, cybersecurity, financial requirements, and available personnel.

2. Library administrators should expand electronic resources based on the needs of students, faculty members, and other stakeholders. The institution should also provide appropriate user support to improve access to and use of digital library services.

3. The institution should allocate appropriate resources for ICT infrastructure, digital content, personnel training, and system maintenance to support the long-term operation of the e-library system.

4. Developers should use the identified user expectations and institutional requirements as bases for defining software requirements, designing the system architecture, and developing the e-library system.

5. Future researchers should consider probability sampling and larger sample sizes to improve the generalizability of the findings. Other appropriate statistical techniques, including structural equation modeling, may also be considered to further examine the relationships among the study variables.

6. Future studies should complement respondent perceptions with objective indicators, such as infrastructure assessments, library accreditation records, evaluations of technological capabilities, and organizational readiness measures.

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NOMENCLATURE

N	Total number of respondents included in the study
n	Number of respondents within a specific subgroup or category
SD	Standard deviation representing the dispersion of respondents' scores around the mean
r	Pearson correlation coefficient indicating the direction and strength of the linear relationship between two study variables
p	Probability value used to determine the statistical significance of an observed relationship under the null hypothesis
V.I.	Verbal Interpretation, referring to the qualitative interpretation assigned to the numerical mean score
HEI	Higher Education Institution
CHED	Commission on Higher Education
ICT	Information and Communication Technology
IT	Information Technology
LMS	Learning Management System, a digital platform used to facilitate and manage teaching, learning, and access to educational resources
SDG	Sustainable Development Goal
SDG 4	Sustainable Development Goal 4: Quality Education
SDG 16	Sustainable Development Goal 16: Peace, Justice and Strong Institutions
SDG 17	Sustainable Development Goal 17: Partnerships for the Goals
e-Library	Electronic library system that provides digital access to library resources, services, and information through electronic or networked technologies
Ho	Null hypothesis stating that there is no significant relationship among the study variables