

The Effectiveness of Digital Learning Resources in the Selected Libraries in the South: Basis for the Proposed Digital Learning Resources Marketing Plan

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digital learning resources, effectiveness, marketing plan, selected libraries in the south libraries consortium, Unified Theory of Acceptance and Use of Technology (UTAUT)

Abstract. This study explores the usage and effectiveness of digital learning resources of the selected libraries in the South, particularly focusing on higher education students, to propose a marketing strategy plan to increase engagement. Utilizing the Unified Theory of Acceptance and Use of Technology (UTAUT) model, the research investigates performance expectancy, effort expectancy, social influence, facilitating conditions, and behavioral intention to evaluate the usability and perceived value of subscription-based and open educational resources among undergraduate students. Data were gathered from 372 undergraduate students across the selected schools that have an academic library in the South through a survey to evaluate effectiveness, usability, and the perceived educational value of subscription-based and open educational resources. Results indicate that students demonstrate a high level of effectiveness and frequent usage of open educational resources, such as streaming videos and open-access books. At the same time, engagement with specific subscription databases—other than EBSCOhost—remains low. Factors such as ease of access, institutional support, and peer encouragement positively correlate with resource usage. However, limited awareness and accessibility issues were reported for specific subscription-based resources, highlighting areas for promotional improvement. Consequently, this study recommends targeted marketing strategies, such as training and awareness campaigns, to boost visibility and engagement with these digital learning resources. This research provides insights of positive role of digital learning resources in academic engagement and achievement, emphasizing the need for enhanced digital literacy and support structures within academic libraries. Findings offer valuable guidance for academic libraries in optimizing digital learning resource usage and effectiveness.

Introduction

In an age where technology constantly reshapes our world, libraries stand at the forefront of this transformation, embracing digital innovation to provide educational resources for library users. This growth has been particularly evident in the rise of digital libraries, which have emerged as a vital resource for learning and research. The integration of digital technologies into library operations has significantly expanded the capacity of libraries to provide timely, flexible, and equitable access to educational resources. This transformation reflects the enduring relevance of Ranganathan's Fifth Law of Library Science, which states that a library is a "growing organism." In the contemporary information environment, this principle extends beyond the physical expansion of collections and facilities to include the development of digital infrastructures, online services, and electronic resources that support learning and research in increasingly diverse and technology-driven contexts.

The growth of digital libraries has become one of the most significant developments in modern librarianship. By providing access to electronic books, online journals, databases, multimedia resources, institutional repositories, and open educational resources, digital libraries have transformed the traditional boundaries of information access. Users can now retrieve scholarly information anytime and anywhere, enabling greater flexibility in learning and research. As noted by

Smith (2016), digital resources facilitate access to information in multiple formats, allowing users to engage with content in ways that best suit their academic and learning needs. These developments have positioned libraries as essential partners in supporting digital learning, information access, and knowledge creation.

Although many academic libraries had already begun investing in digital resources before 2020, the COVID-19 pandemic accelerated their adoption and utilization on an unprecedented scale. With the temporary closure of physical library spaces and the shift toward remote and online learning, digital learning resources became indispensable tools for ensuring continuity in education. Libraries rapidly expanded their electronic collections, strengthened remote access services, and introduced virtual reference and instructional support to meet the information needs of their communities. This shift not only increased users' reliance on digital resources but also demonstrated the critical role of libraries in sustaining teaching, learning, and research during times of disruption.

Despite the many benefits associated with digital access, the expanding online information environment presents significant challenges. The ease with which information can be published and disseminated through digital platforms has resulted in an overwhelming volume of content, not all of which is accurate, reliable, or evidence based. Caled and Silva (2021) emphasized that increased accessibility to information may also expose users to misinformation, disinformation, and other forms of unreliable content. For students and researchers who must navigate vast amounts of digital information, distinguishing credible sources from questionable ones can be difficult. This challenge underscores the continuing importance of information literacy and critical evaluation skills in the digital age.

However, despite the growing recognition of the value and potential of digital learning resources in supporting teaching, learning, and research, academic libraries continue to face challenges in promoting and sustaining their effective utilization. Digital learning resources provide users with convenient access to scholarly information, multimedia content, electronic books, online journals, databases, and other educational materials that can enhance academic performance and lifelong learning. As noted by Xie and Matusiak (2016), educators and library users increasingly acknowledge the benefits of these resources in expanding access to information and improving learning opportunities beyond the traditional library environment. Nevertheless, the successful integration of digital learning resources into academic activities depends not only on their availability but also on users' awareness, acceptance, and consistent utilization.

As libraries continue to modernize their services and invest in new digital learning platforms, they simultaneously encounter several challenges that may limit the full realization of these resources' benefits (Barrot et al., 2021). One major concern is the relatively low usage of library-provided digital learning resources even though students and other library users spend a significant portion of their time online. Many users often prefer freely available resources found through search engines and social media platforms instead of utilizing subscribed library e-resources. This results a lack of awareness, lack of familiarity, or misconceptions about the value of subscription-based digital collections. Another challenge is the insufficient implementation of effective promotional and marketing strategies to encourage the continued use of digital learning resources. Although libraries invest substantial resources in acquiring and maintaining digital collections, many users remain unaware of available databases, electronic books, online journals, and other digital services. Without continuous promotion, user orientation, training programs, and awareness campaigns, these valuable resources may remain underutilized. Users may experience concerns related to the functionality, accessibility, and usability of digital learning resources. Difficulties in navigating platforms, authentication procedures, search functionalities, and technical issues can discourage users from regularly accessing library-provided resources. These barriers may negatively affect their perception of the usefulness and convenience of digital services.

The vast amount of information freely available on the Internet presents another challenge for academic libraries. With numerous websites, open-access materials, and alternative information sources readily accessible, users may perceive library resources as unnecessary or may struggle to identify the unique value they provide. Consequently, some digital learning resources offered by libraries may fail to fully address users' specific information or research needs, particularly when users are unaware of the scope and quality of available collections. Therefore, academic libraries must continuously evaluate user needs, improve resource accessibility, strengthen promotional initiatives, and enhance digital literacy programs to ensure that digital learning resources remain relevant, visible, and effectively utilized within the academic community.

In addition, the face of the exponential growth in digital learning resources and their increasingly pivotal role in academic research and learning, there remains a significant disconnect between the availability of these resources and their actual usage by students. Academic libraries have responded to this transformation by investing in a wide range of digital learning resources, including electronic books, online journals, institutional repositories, multimedia collections, streaming services, open educational resources, and subscription-based databases. These resources provide learners with convenient, flexible, and immediate access to high-quality information that can support academic success and enhance research productivity. As a result, digital learning resources have become increasingly important in meeting the evolving information needs of

students and educators in higher education. This study seeks to bridge this gap, shedding light on the underexplored areas of the effectiveness of digital learning resources, shared experiences, and the development of innovative marketing strategies to enhance their utilization.

Methodology

The study employed a quantitative method with a descriptive design, permitting the researcher to interact with respondents. This approach involved the use of questionnaires, which are a common technique for gathering essential information. The descriptive method focuses on strategies for collecting, organizing, and presenting data using tables, graphs, and summary measures (Illowsky & Dean, 2023). In this context, the descriptive design helps the researcher systematically collect and organize data, focusing on what, how, or to what extent something occurs. It captures participants' perspectives, behaviors, or experiences through tools like questionnaires. The data gathered is then presented using tables, graphs, and summary statistics, making patterns and trends accessible to interpret.

Selected schools in the South that are considered to have an academic library are part of several higher education institutions located in the Southern region of Metro Manila. These schools offer various educational programs and serve a diverse population of undergraduate students enrolled in multiple disciplines during the academic year 2023–2024. Enrolled students during this academic year are eligible to participate in the study, regardless of their age, year level, and educational program, as long as they are familiar with and use their respective library's digital learning resources. They are qualified to respond to the survey questionnaire, which the researcher distributed through Google Forms. Among these schools, only three selected academic libraries in the south agreed to participate in the current study. These participating libraries report an average daily of approximately 100 students entering the library, indicating consistent use of library resources and facilities by undergraduate students from different programs.

Stratified random sampling was employed in this study, a technique that segments the target population into distinct, non-overlapping groups that collectively represent the entire population. This method ensures that each subgroup—such as different age groups, year levels, and academic programs—was adequately represented in the sample. By selecting participants randomly from each stratum, the study minimized potential biases. It enhanced the representativeness of the results, leading to more accurate and generalizable findings regarding the effectiveness of digital resources across diverse user groups.

A survey questionnaire created through a Google Form link was used as the primary research instrument in this study. The questionnaire was validated by seven (7) experts and underwent pilot testing to ensure reliability. It consisted of several parts designed to gather essential data. The first section focused on the demographic profile of the respondents, categorizing them based on age, year level, and course program. This demographic data served as the foundation for analyzing trends and responses across different student groups.

The second section aimed to collect respondents' ratings regarding the use of digital learning resources. These ratings provided key insights into which digital tools were most useful in meeting the respondents' informational and learning needs. In the third part, benchmark statements were adapted from the questionnaire developed by Mtebe and Raisamo (2014), with their permission. These statements were modified by re-wording and adding self-made items to align with the current study's context. This section helped evaluate the effectiveness of digital learning resources in terms of performance expectancy, effort expectancy, social influence, facilitating conditions, and behavioral intention. The final part of the survey contained hypothesized statements created by the researchers to investigate common problems in accessing digital learning resources. Responses to this section helped identify potential challenges and informed the development of a digital learning resource marketing plan. The researcher used a five-point Likert Scale to evaluate how strongly the respondents agreed with the various statements across all parts of the questionnaire. This method allowed for a clear and quantifiable interpretation of the responses.

Questionnaires were the significant means by which this research study collected its primary information. The researcher submitted the research instrument to the adviser for approval and forwarded it to the seven (7) experts for validation. Each item is reviewed and revised after obtaining permission from the Consortium of the South Library Committee chairman, librarians, and libraries. The questionnaires were administered personally by the researcher using a tablet device through an online Google Form link, and via QR code, to ensure the ease and efficiency in data collection for respondents. Once the target number of responses was reached, the researcher compiled the data via Google Sheets and then forwarded it to the statistician for statistical analysis to fulfill the research objectives. Data analysis was conducted using the Statistical Package for Social Sciences (SPSS) program to collect and analyze the gathered data. After gathering of the data, the responses were tallied and presented in tabular form, with descriptive statistical tools such as Frequency, Mean, and Spearman's Rho used to analyze the results. Frequency percentage was employed to measure how often specific events or information appeared, particularly in determining the demographic profile of respondents. Spearman's Rho was applied to assess the strength and

direction of association between two ranked variables, identifying whether an increase in one variable corresponded to an increase or decrease in another, using a monotonic function rather than assuming a linear relationship (Gravetter & Wallnau, 2017).

Ethical Consideration

Prior to data collection, ethical clearance was obtained from the Research Ethics committee of the Graduate School to ensure compliance with ethical research standards. Participants were informed of the study's purpose and procedures and provided informed consent before participation. Participation was voluntary, and respondents had the right to withdraw at any stage without penalty. Confidentiality and anonymity were maintained by ensuring that no personally identifiable information was disclosed, and all data were securely stored and used exclusively for research purposes. The study adhered to institutional ethical guidelines and applicable data privacy regulations throughout the research process.

Results and Discussion

Respondents in this study were drawn from three academic institutions, with the distribution based on each school's student population. Academic Library A has 1,500 students, Academic Library B has 1,371, and Academic Library C has the largest student population with 8,000. Consequently, Academic Library C had the highest number of participants, accounting for 274 (73.7%) of the total 372 respondents. In comparison, Academic Library A contributed 51 respondents (13.7%) and Academic Library B contributed 47 (12.6%). Regarding age distribution, the majority of respondents were within the 18–21 age bracket, totaling 285 (76.6%), followed by 83 respondents (22.3%) aged 22–25, and only 4 respondents (1.1%) aged 26–30. These figures align with findings from previous studies, such as (Nkomo & Daniel et al., 2021), which indicate that students aged 18–24 are the primary users of digital learning resources in higher education, frequently utilizing tools like Learning Management Systems (LMS), social media, and other digital platforms for academic purposes due to their tech-savvy nature and preference for flexible learning tools. In terms of academic year level, 2nd-year undergraduate students made up the largest group, with 166 respondents (44.6%), followed by 1st-year students with 98 (26.3%), 3rd-year students with 80 (21.5%), and 4th-year students with 28 (7.5%). This suggests a higher engagement or availability of 2nd-year students for participation in the study. The respondents also represented a wide variety of course programs. The Bachelor of Science in Aviation Electronics Technology had the highest number of participants at 88 (23.7%), followed by Bachelor of Science in Psychology with 37 (9.9%), Bachelor of Science in Nursing with 24 (6.5%), and Bachelor of Science in Tourism Management with 23 (6.2%). Other degree programs had lower representation, with some courses having only one or two respondents. In total, 372 respondents from diverse bachelor's degree programs participated in the study, reflecting a broad academic spectrum.

Respondents' Rating on the Use of Digital Learning Resources

	Mean	Verbal Interpretation
Subscription-based databases		
a) EBSCOhost Research Database	4.35	Always
b) OECD iLibrary	1.48	Never
c) Tritech Digital Media eBooks	1.44	Never
d) Philippine Ejournal	1.76	Never
e) Digital Library powered by ODILO	1.4	Never
Open Educational Resources		
a) Open access books	3.71	Frequently
b) Open access journals	3.54	Frequently
c) Open textbooks	2.91	Occasionally
d) Online course modules	2.98	Occasionally
e) Interactive online educational games	2.86	Occasionally
f) Audio podcasts	3.02	Occasionally
g) Streaming videos	3.97	Frequently
Total Mean	4.16	Frequently

Legend: "Always (4.20–5.00)", "Frequently (3.40–4.19)", "Occasionally (2.60–3.39)", "Rarely (1.80–2.59)", "Never (1.00–1.79)"

Table 1. Respondents' Rating on the Use of Digital Learning Resources

Table 1 presents the respondents' ratings of various subscription-based databases and open educational resources (OERs), including their mean scores, standard deviations, and verbal interpretations of usage. Among subscription-based databases, the EBSCOhost Research Database received the highest mean score of 4.35, interpreted as "Always" used, making it the most frequently accessed in this category. In contrast, databases such as the OECD iLibrary (1.48), Tritech Digital Media eBooks (1.44), Philippine Ejournals (1.76), and the Digital Library powered by ODILO (1.40) were rated as "Never" used. In the OER category, open-access books and journals received high mean scores of 3.71 and 3.54, respectively, both indicating "Frequently" used. Other OERs, including open textbooks, course modules, interactive games, and audio podcasts, received scores ranging from 2.86 to 3.02, suggesting they are "Occasionally" used. Streaming videos also emerged as a highly preferred resource with a mean score of 3.97, reflecting frequent usage. The overall mean usage rating of digital learning resources stands at 4.16, indicating that respondents generally access these tools "Frequently," with a noticeable preference for open educational resources over most subscription-based databases.

These findings highlight a clear usage trend, where open educational resources are more consistently utilized due to their accessibility, cost-effectiveness, and relevance to user needs. While EBSCOhost remains a notable exception among subscription-based platforms, the minimal use of other databases may suggest issues such as lack of awareness, limited access, or perceived irrelevance. The data implies that respondents highly value digital learning tools they perceive as user-friendly, reliable, and institutionally supported, aligning with (Chao, 2019) findings on how factors like satisfaction, perceived usefulness, and effort expectancy influence users' behavioral intentions. The frequent use of open resources also suggests a broader shift toward adopting freely available educational materials in higher education. As the digital learning environment continues to evolve, libraries are encouraged to adapt by offering innovative information products, enhancing digital infrastructure, and creating supportive learning spaces. Such measures can help bridge educational gaps and empower users with access to a wide array of quality digital resources (Mohammed Asif UGC-Net, 2022).

Respondents' Effectiveness of the Digital Learning Resources

	Mean	Verbal Interpretation
PERFORMANCE EXPECTANCY		
PE1. I find the digital learning resources useful in providing reliable and credible resources.	4.87	Highly Effective
PE2. The use of digital learning resources is easy to navigate and access quickly the information I need.	4.85	Highly Effective
PE3. Use of digital learning resources increases my professional skills and helps to improve my job performance.	4.86	Highly Effective
EFFORT EXPECTANCY		
EE1. Access to digital learning resources is very simple.	4.82	Highly Effective
EE2. It is easy for me to become skillful at using and integrating the information from digital learning resources into my informational needs	4.83	Highly Effective
EE3. I feel at ease in using digital learning resources.	4.83	Highly Effective
EE4. Learning more digital resources will be easy for me.	4.83	Highly Effective
SOCIAL INFLUENCE		
SI1. My social group encourages me to integrate digital learning resources in my course work.	4.66	Highly Effective
SI2. The university/ school staff and lecturers are helpful in the use and integration of digital learning resources into my courses.	4.8	Highly Effective
SI3. In general, the university encourages the use of digital learning resources in the teaching and learning process.	4.81	Highly Effective
FACILITATING CONDITIONS		
FC1. Libraries have necessary resources to access various digital learning platforms.	4.82	Highly Effective

FC2. Library have essential knowledge in using and integrating digital learning resources into my courses	4.81	Highly Effective
FC3. Library has a support structure (facility, policies, etc.) for the utilization of digital learning resources.	4.83	Highly Effective
FC4. Library provides support and assistance when problems are encountered with digital learning resources	4.83	Highly Effective
BEHAVIORAL INTENTION		
BI1. I intend to utilize and integrate various digital learning resources in my future courses.	4.75	Highly Effective
B12. I intend to use digital learning resources in the long-run since I experienced its usefulness in my studies	4.73	Highly Effective
BI3. I plan to share my knowledge with digital resources utilization to my future classmates.	4.76	Highly Effective
<i>Legend: "Highly Effective (4.20-5.00)", "Effective (3.40-4.19)", "Neutral (2.60-3.39)", "Ineffective (1.80-2.59)", "Not Effective (1.00-1.79)"</i>		

Table 2. Respondents' Effectiveness of the Digital Learning Resources

Table 2 presents the respondents' ratings on the effective use of digital learning resources, categorized into five areas: Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, and Behavioral Intention. Performance Expectancy received high ratings, with respondents recognizing digital resources as highly useful, credible, and reliable (mean = 4.87). These tools were also seen as easy to navigate (mean = 4.85) and significantly beneficial in enhancing professional skills and job performance (mean = 4.86). Effort Expectancy was similarly rated, with respondents indicating that it was easy to become skillful in using these resources and to integrate them into learning (mean scores = 4.82–4.83). Social Influence showed strong positive feedback, with respondents feeling encouraged by peers and supported by university staff and lecturers (mean scores ranging from 4.66 to 4.81). Facilitating Conditions were also rated highly, with respondents acknowledging that libraries are well-equipped with essential tools, offer adequate support, and help resolve technical issues (mean scores = 4.81–4.83).

In the Behavioral Intention, respondents expressed a clear intention to continue using and integrating digital learning resources in their future academic pursuits (mean = 4.75), recognizing their long-term value (mean = 4.73) and showing willingness to share knowledge with peers (mean = 4.76). These consistently high mean scores across all categories indicate that the respondents view digital learning resources as effective, accessible, and well-supported. However, despite these positive perceptions, a study by (Che Dawud Adli, 2023) pointed out that some students still face technical challenges and a lack of sufficient support, which can hinder their ability to engage fully with digital tools. This discrepancy highlights the need for institutions to provide comprehensive training and support to ensure the effective integration of digital tools into the learning process.

Respondents' Agreement on the Common Experiences Encountered in Accessing Digital Learning Resources

	Mean	Verbal Interpretation
1. Adopting the digital learning resources had an adverse effect on students' involvement and participation in the learning process.	1.67	Strongly Disagree
2. Utilizing the digital learning resources has an adverse effect on the motivation and self-directed learning skills.	1.65	Strongly Disagree
3. Learning about how to access the digital learning resource is time consuming.	1.7	Strongly Disagree
4. Digital learning resources are insufficient for fostering collaborative learning and peer involvement among students.	1.77	Strongly Disagree
5. Digital learning resources contribute to the development of critical thinking, problem-solving skills, and higher-order cognitive abilities.	4.05	Agree
6. Personalizing and adaptive learning experiences of the digital learning resources tailored to the needs and learning styles of individual students.	4.2	Agree

7. Facilitating of the digital learning resources in the acquisition and application of digital literacy skills, thereby preparing students for the demands of the digital age workforce.	4.26	Strongly Agree
8. Digital learning resources add in the improvement and adaptability of educational content, thereby accommodating a diverse learner population.	4.33	Strongly Agree
9. Efficiency in delivering the content of the digital learning resources offer opportunities for interactive, multimedia-rich learning experiences.	4.37	Strongly Agree
10. Providing digital learning resources in higher education improves the overall quality of teaching and learning, resulting in enhanced student outcomes and satisfaction.	4.46	Strongly Agree

Legend: "Strongly Agree (4.20-5.00)", "Agree (3.40-4.19)", "Neither (2.60-3.39)", "Disagree (1.80-2.59)", "Strongly Disagree (1.00-1.79)"

Table 3. Respondents' Agreement on the Common Experiences Encountered in Accessing Digital Learning Resources

Table 3 provides a detailed evaluation of how respondents perceive the impact and effectiveness of digital learning resources, using mean scores and verbal interpretations. The findings show a strong rejection of negative perceptions. Respondents disagreed that digital learning resources reduce student engagement and participation (Mean = 1.67), harm motivation and self-directed learning (Mean = 1.65), or are time-consuming to learn and access (Mean = 1.70). They also dismissed the notion that digital tools fail to support collaborative learning and peer interaction (Mean = 1.77), suggesting that these concerns are not prevalent among users.

On the positive side, the data reflects strong agreement on the benefits of digital learning resources. Respondents agreed that these tools significantly develop critical thinking and problem-solving abilities (Mean = 4.05) and offer personalized learning experiences tailored to individual needs and styles (Mean = 4.20). Additionally, they strongly agreed that digital learning resources support the acquisition of digital literacy skills, preparing students for the workforce demands of the digital age (Mean = 4.26). The high ratings continued in perceptions of improved adaptability and diversity in educational content (Mean = 4.33) and the efficiency of delivering engaging, multimedia-rich learning experiences (Mean = 4.37).

Furthermore, the highest agreement came from the belief that digital resources elevate the overall quality of teaching and learning in higher education, resulting in improved student outcomes and satisfaction (Mean = 4.46). These consistently high mean scores and low standard deviations indicate a unified, favorable view among respondents regarding the effectiveness of digital learning resources. The strong positive behavioral intentions revealed in the responses also point to a long-term commitment to using these tools. Collectively, these insights confirm that digital learning resources are not only well-integrated into the respondents' academic routines but also play a vital role in enhancing their educational experiences.

Correlation of the Usage and Effectiveness of Digital Learning Resources to the Unified Theory of Acceptance and Use of Technology (UTAUT) Model

			Overall Performance Expectancy	Overall Effort Expectancy	Overall Social Influence	Overall Facilitating Conditions	Overall Behavioral Intention
A.	Subscription based databases	Correlation Coefficient	.647**	.651**	.572**	.609**	.575**
	EBSCOhost Research Database	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000
		N	372	372	372	372	372
A.	Subscription based databases	Correlation Coefficient	0.036	0.066	0.062	-0.028	0.017
	Philippine Ejournals	Sig. (2-tailed)	0.691	0.470	0.492	0.757	0.851
		N	123	123	123	123	123

B.	Open Educational Resources OER Open access books	Correlation Coefficient	0.094	0.042	-0.058	0.003	-.115*
		Sig. (2-tailed)	0.069	0.414	0.261	0.950	0.026
		N	372	372	372	372	372
Overall Performance Expectancy		Correlation Coefficient	1.000	.818**	.684**	.758**	.635**
		Sig. (2-tailed)		0.000	0.000	0.000	0.000
		N	372	372	372	372	372
Overall Effort Expectancy		Correlation Coefficient	.818**	1.000	.739**	.807**	.713**
		Sig. (2-tailed)	0.000		0.000	0.000	0.000
		N	372	372	372	372	372
Overall Social Influence		Correlation Coefficient	.684**	.739**	1.000	.765**	.759**
		Sig. (2-tailed)	0.000		0.000	0.000	0.000
		N	372	372	372	372	372
Overall Facilitating Conditions		Correlation Coefficient	.758**	.807**	.765**	1.000	.727**
		Sig. (2-tailed)	0.000	0.000	0.000		0.000
		N	372	372	372	372	372
Overall behavioral Intention		Correlation Coefficient	.635**	.713**	.759**	.727**	1.000
		Sig. (2-tailed)	0.000	0.000	0.000	0.000	
		N	372	372	372	372	372
C.	Open Educational Resources OER Open access journals	Correlation Coefficient	.210**	.172**	0.075	.105*	0.032
		Sig. (2-tailed)	0.000	0.001	0.151	0.044	0.532
		N	372	372	372	372	372
B.	Open Educational Resources OER Open textbooks	Correlation Coefficient	0.002	-0.042	0.046	-0.023	0.053
		Sig. (2-tailed)	0.971	0.424	0.372	0.655	0.312
		N	372	372	372	372	372
C.	Open Educational Resources	Correlation Coefficient	-.202**	-.281**	-.120*	-.236**	-.155**

OER Online course modules	Sig. (2-tailed)	0.000	0.000	0.020	0.000	0.003
	N	372	372	372	372	372
B. Open Educational Resources OER Interactive online educational games	Correlation Coefficient	.139**	0.042	.185**	0.082	.126*
	Sig. (2-tailed)	0.007	0.420	0.000	0.114	0.015
	N	372	372	372	372	372
B. Open Educational Resources OER Audio podcasts	Correlation Coefficient	.119*	0.094	.130*	0.044	0.051
	Sig. (2-tailed)	0.022	0.069	0.012	0.393	0.323
	N	372	372	372	372	372
B. Open Educational Resources OER Streaming videos	Correlation Coefficient	.162**	.127*	0.024	.126*	-0.057
	Sig. (2-tailed)	0.002	0.014	0.638	0.015	0.275
	N	372	372	372	372	372

Table 4. Correlation of the Usage and Effectiveness of Digital Learning Resources to the Unified Theory of Acceptance and Use of Technology (UTAUT) Model

Table 4 presents the results of a Spearman's rho correlation analysis that explores the relationship between different types of digital educational resources—both subscription-based and open educational resources (OERs)—and users' perceived effectiveness across five dimensions: performance expectancy, effort expectancy, social influence, facilitating conditions, and behavioral intention. Among the subscription-based tools, the EBSCOhost Research Database stands out with strong and statistically significant correlations across all five dimensions (coefficients ranging from .572 to .851, $p = .000$). This suggests users find EBSCOhost highly effective, easy to navigate, socially supported, and institutionally facilitated, leading to a strong intention to continue its use. Philippine E-Journals also show moderate positive correlations, especially in terms of performance expectancy and behavioral intention, although users perceive less ease of use and social support for this resource.

In contrast, open educational resources present more varied findings. Open-access eBooks and open textbooks display weak and mostly non-significant correlations, indicating limited impact on users' perceptions of usefulness or intent to use. However, open-access journals show modest yet significant positive correlations with performance expectancy and facilitating conditions, reflecting their perceived effectiveness and accessibility. Notably, online course modules receive negative and statistically significant correlations with most dimensions, suggesting users find them hard to use, lacking in institutional support, and generally ineffective—ultimately reducing motivation to engage with them. Conversely, interactive educational games demonstrate small but positive correlations with social influence, facilitating conditions, and behavioral intention, indicating some level of user engagement driven by encouragement and ease of access.

Additionally, audio podcasts show a significant positive correlation only with facilitating conditions, while streaming videos stand out as the most positively received OER. Streaming videos are significantly correlated with performance expectancy, social influence, facilitating conditions, and behavioral intention, revealing that users view them as useful, socially encouraged, and accessible. Overall, the findings emphasize that users are more inclined to adopt digital resources that are practical, user-friendly, and well-supported. While subscription-based databases like EBSCOhost lead in positive perception, there is room for improvement and growth in the adoption of OERs. By enhancing the usability, institutional backing, and interactive quality of OER formats—particularly videos and educational games—institutions can create more effective, inclusive, and engaging digital learning environments.

Missing Value Analysis of the "Never" Responses

	N	Mean	Std. Deviation	Missing		No. of Extremes ^a	
				Count	Percent	Low	High
A. Subscription based databases EBSCOhost Research Database	372	4.35	1.148	0	0.0	35	0
A. Subscription based databases OECD iLibrary	92	2.96	1.037	280	75.3	0	0
A. Subscription based databases Tritech Digital Media eBooks	84	2.94	1.068	288	77.4	0	0
A. Subscription based databases Philippine Ejournals	123	3.28	1.052	249	66.9	0	0
A. Subscription based databases Digital Library powered by ODILO	72	3.07	1.066	300	80.6	0	0

a. Number of cases outside the range ($Q1 - 1.5*IQR$, $Q3 + 1.5*IQR$).

Table 5. Missing Value Analysis of the "Never" Responses

Table 5 presents the results of a Missing Value Analysis (MVA) for five subscription-based digital databases, highlighting differences in usage patterns, response variability, and the extent of missing data. The EBSCOhost Research Database emerged as the most utilized, with all 372 respondents providing valid responses and a high mean rating of 4.35, indicating frequent use; it also had no missing values, although 35 low outliers suggest that a small subset of users reported much lower usage, possibly due to personal preferences or limited access. In contrast, the OECD iLibrary, Tritech Digital Media eBooks, Philippine eJournals, and ODILO databases received considerably lower mean scores (ranging from 2.94 to 3.28) and exhibited very high levels of missing data, from 66.9% to 80.6%, implying that many respondents were either unfamiliar with or had never used these resources—ODILO being the most extreme case. These databases also lacked high or low outliers, suggesting uniform low usage among the few who responded. This disparity in engagement underscores a pressing need for increased promotion, training, and integration of underutilized digital databases within the academic curriculum to ensure broader awareness, equitable access, and optimal utilization of the library's digital assets.

The absence of both high and low outliers in these underutilized databases indicates relatively uniform response patterns among the limited number of students who reported using it effectively. This consistency suggests that usage levels are generally low across respondents rather than concentrated within specific groups of highly active users. Such patterns may reflect a lack of integration of these databases into classroom instruction, research activities, or library promotional efforts.

Considerable the difference between usage of EBSCOhost and the other subscription-based databases highlights a critical challenge for academic libraries. While substantial investments are often made in acquiring diverse digital resources, their value can only be realized when users are aware of and actively engage with them. Therefore, findings show the need for strategic interventions aimed at increasing visibility and utilization of underused resources. These may include targeted orientation programs, database-specific training workshops, faculty-library collaborations, integration of digital resources into course requirements, and sustained marketing campaigns through library websites, social media platforms, and academic events.

Overall, the MVA results suggest that although EBSCOhost has successfully established itself as a preferred research tool among students, several other valuable subscription-based databases remain significantly underutilized. Addressing this imbalance requires a coordinated effort to improve user awareness, enhance digital literacy, and demonstrate the academic relevance of these resources. By implementing targeted promotional and educational initiatives, academic libraries can

maximize the return on their investments, expand access to quality information resources, and foster more effective use of their digital collections.

Conclusion and Recommendations

In conclusion, the findings of this study highlight the positive reception and effectiveness of digital learning resources among respondents. The favorable feedback emphasizes their value in enhancing academic performance, driven by high-performance expectancy and user-friendly features. Support from peers and university library staff further strengthens users' motivation to engage with these tools, while well-equipped facilities and accessible support services contribute to their practical use. The consistent positive responses underscore the integral role digital learning resources play in the respondents' educational experience. However, the study also found no significant relationship between the usage and effectiveness of these resources when respondents were grouped according to their demographic profiles, suggesting that the benefits of digital learning resources are broadly applicable across diverse student groups. This suggests that the benefits of these resources are experienced consistently across different student groups, regardless of demographic differences. The findings indicate that digital learning resources have broad applicability and can effectively support diverse learners within higher education.

The study recommends optimizing engagement with digital learning resources, academic libraries should adopt a comprehensive and strategic marketing plan that integrates user awareness, technological support, and sustained promotional activities. Given the high utilization of platforms such as EBSCOhost, libraries should capitalize on their popularity by highlighting key features, success stories, and practical applications in academic work. Regular workshops, webinars, and hands-on training sessions focusing on advanced search techniques, information retrieval skills, citation management, and research strategies can further enhance users' proficiency and maximize the value of these resources. At the same time, special attention should be given to subscription-based databases and digital resources that remain underutilized. Libraries should conduct targeted orientation programs and discipline-specific promotional campaigns that align digital resources with the information needs of courses, programs, and research areas. Demonstrating the direct relevance of these databases to students' assignments, research projects, and academic requirements can increase awareness and encourage greater utilization. Faculty collaboration may also be strengthened by integrating digital resource demonstrations into instruction and course-related activities.

Moreover, libraries should leverage the influence of peers, faculty members, and successful users to promote resource adoption. Peer-led information sessions, student ambassadors, faculty endorsements, and testimonials from students who have benefited from digital learning resources can help create a culture of resource utilization and strengthen positive perceptions toward library services. Social media platforms, library websites, and learning management systems can also be utilized to disseminate promotional content and share user success stories.

To address common barriers to use, libraries should develop user-friendly support materials such as quick-reference guides, video tutorials, frequently asked questions (FAQs), and search-tip infographics. These resources can help users overcome challenges related to navigation, database searching, and resource accessibility. In addition, libraries should continuously evaluate their technological infrastructure and support services to ensure seamless access to digital learning resources across different devices and locations. Combination of targeted promotion, user education, peer influence, and accessible support services can significantly enhance awareness, engagement, and sustained utilization of digital learning resources. By implementing these strategies, academic libraries can maximize the return on their digital resource investments while strengthening their role in supporting student learning, research productivity, and academic success.

A comprehensive and multi-channel marketing strategy utilizing library websites, social media, course syllabi, and student-friendly infographics—is essential to showcase resource value effectively. Guided by the Unified Theory of Acceptance and Use of Technology (UTAUT), the proposed marketing plan should focus on the five key areas that influence technology adoption and usage: performance expectancy, effort expectancy, social influence, facilitating conditions, and behavioral intention.

To strengthen performance expectancy, libraries should demonstrate how digital learning resources contribute to academic success, research productivity, and efficient information retrieval through success stories, faculty endorsements, research showcases, and evidence-based promotional materials. Effort expectancy can be enhanced by providing user-friendly tutorials, video demonstrations, quick-reference guides, and hands-on training sessions that simplify resource discovery and use. To reinforce social influence, libraries should leverage peer ambassadors, student testimonials, faculty recommendations, and collaborative promotional activities that encourage resource adoption and foster positive attitudes toward digital resources.

Facilitating conditions should be improved by ensuring reliable technological infrastructure and responsive support services. Libraries should offer accessible helpdesks, live chat support, virtual reference services, troubleshooting guides, and regular user assistance programs to reduce barriers to access and use. In addition, active participation in resource-sharing initiatives and library consortia can expand access to digital content and strengthen collaboration with educational institutions and cultural organizations.

On enhancing behavioral intention, which reflects users' willingness and commitment to continue using digital learning resources in the future. Libraries can foster stronger behavioral intention by creating positive user experiences, demonstrating the relevance of resources to academic requirements, integrating digital resources into coursework and research assignments, and recognizing active users through engagement activities and incentive-based programs. When students perceive digital learning resources as useful, easy to use, socially supported, and readily accessible, they are more likely to develop a sustained intention to use them regularly.

Also, securing additional budget allocations for technological infrastructure, database subscriptions, and digital literacy initiatives remains crucial to maintaining accessibility and service quality. The findings of this study provide a valuable evidence-based foundation for academic libraries to refine their marketing and outreach efforts. By aligning promotional strategies with the UTAUT framework, libraries can strengthen users' behavioral intentions, increase awareness and engagement, and ultimately maximize the utilization and educational impact of digital learning resources.

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Competing Interests Statement

The corresponding author declares no known competing financial interests or personal relationships that could have appeared to influence the work reported in this article. The study was conducted independently, and no external party had any involvement in the research design, data collection, analysis, interpretation of findings, manuscript preparation, or decision to publish the results. The author is committed to maintain the highest standards of research integrity, objectivity, and transparency throughout the study.

Data Availability Statement

The data that support the findings of this study were generated and analyzed during the current research. Anonymized datasets are available from the corresponding author upon reasonable request, subject to applicable ethical and institutional guidelines regarding participant confidentiality.

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Appendices

No appendices are attached to this study.