International Journal of Academe and Industry Research
Volume 6 Issue 2 June 2025
DOI: https://doi.org/10.53378/ijair.353211

Exploring user acceptance and satisfaction with the Academic Collection of Comprehensive Educational Studies System (ACCESS): A state university experience

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Abstract

The study examines the acceptance and satisfaction with the Academic Collection of Comprehensive Educational Studies System (ACCESS), a web-based digital repository designed to enhance research accessibility and utilization in a state university in the Philippines. Using a quantitative research approach, the study applies the Technology Acceptance Model (TAM) and ISO/IEC 9126 software quality criteria to assess functionality, reliability, usability, and overall satisfaction. A random sampling technique included students and faculty members from five courses. Data was gathered through an online survey with a standardized questionnaire and a 5-point Likert scale. Findings indicate that functionality significantly impacts satisfaction and reliability, while usability enhances user experience. However, system stability issues undermine user trust and long-term adoption. Additionally, limited content availability and navigation challenges hinder full engagement. Statistical analysis revealed overlapping concepts affecting validity, likely due to response biases such as straight-lining. Despite its potential as an academic repository, ACCESS requires improvements in system stability, content updates, and usability to enhance user satisfaction. The study underscores the need for continuous evaluation and improvement of digital archiving systems to foster institutional research culture. Future research should expand the sample size and compare ACCESS with similar systems to refine its functionality and usability.

Keywords: *ACCESS, ISO/IEC 9126, level of acceptability, overall satisfaction, technology acceptance model*

Article History:
***Received**: December 11, 2024* ***Revised**: February 26, 2025*
***Accepted**: May 25, 2025* ***Published online**: June 5, 2025*

Suggested Citation:
Belza, J.B., Cahigao, A.B., Luzada, J.J., Paragas, M.L.D. & Onsay, E.A. (2025). Exploring user acceptance and satisfaction with the Academic Collection of Comprehensive Educational Studies System: A state university experience. *International Journal of Academe and Industry Research*, 6(2), 126-150. https://doi.org/10.53378/ijair.353211

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1. Introduction

Today's institutions and organizations must adapt to significant and unavoidable changes driven by rapidly advancing technology (Teker et al., 2022). Within various sectors, including universities and colleges, digital transformation is accelerating and expanding at an unprecedented pace. Higher education institutions increasingly rely on technological innovation and advancement to carry out both administrative and academic tasks efficiently. Digital transformation strategies represent a broader organizational shift that integrates diverse perspectives and objectives. These strategies may focus on optimizing processes, redesigning products, or improving various domains where digital technologies are applied. Parviainen et al. (2017) explain that digital transformation involves changes in roles, work practices, and service offerings, all influenced by the adoption of digital technologies within an organization or its operational environment. Despite the challenges it brings, Hess et al. (2016) argue that organizations must remain creative and innovative, crafting strategies that improve operational performance. While the transition may be difficult, research suggests that digital transformation can also serve as an opportunity for organizations to innovate and reimagine their practices (Sánchez-Quinde et al., 2024).

A critical component of this transformation is the adoption of digital document and file management systems (DMS), which help organize and preserve essential data. According to Ahmad et al. (2017), DMS are designed to store, manage, process, and retrieve both paper and digital documents. The implementation of such systems offers numerous benefits, including increased productivity, improved monitoring, enhanced accuracy, and greater consistency in managing institutional information (Kia et al., 2000). Nevertheless, many organizations continue to rely on outdated physical storage methods, which negatively impact service efficiency, data accuracy, and overall organizational performance. The importance of digital preservation is also emphasized by the Digital Preservation Coalition, the National Library of Australia, and the PADI Gateway (2008), who assert that maintaining long-term access to digital resources requires preserving their usability, authenticity, accuracy, and functionality, critical elements for fulfilling the original purpose for which the digital material was created or acquired.

Despite the clear advantages of digitalization, financial constraints remain a major hurdle, especially for state universities and colleges (SUCs) in many countries. These institutions often lack the funding required to invest in digital infrastructure, hindering efforts

to modernize administrative and academic systems (Adedoyin & Soykan, 2020). Budget limitations force many public universities to delay or deprioritize digital transformation, resulting in inefficiencies in document management and record-keeping. Furthermore, institutions in developing countries face a dual challenge: limited financial resources and a lack of technical expertise, which together make digital transformation a slow and difficult process (Allcoat et al., 2021; Haleem et al., 2021).

The digital divide between well-funded institutions and SUCs continues to widen. Universities with greater financial support can easily invest in digital infrastructure and resources, while those with limited budgets remain reliant on traditional, inefficient document storage methods. The high costs of maintaining digital archives, including software licensing fees and cybersecurity measures, present a major barrier to full digitalization for underfunded institutions. Moreover, universities lacking modern digital infrastructure often face data loss, security vulnerabilities, and reduced operational efficiency (Mojidi, 2023; Robertson, 2006; Coral & Bernuy, 2022). Government intervention is crucial in addressing this growing digital disparity. Research suggests that policy reforms and increased financial support for digitalization initiatives are essential to ensure equitable access to technological advancements. While digital transformation is inevitable, it requires substantial investment, something that many public institutions simply cannot afford. Without adequate financial support, these institutions risk falling behind in both administrative modernization and academic research productivity (Mohamed Hashim et al., 2022; Bailey et al., 2012).

Universities with limited budgets frequently struggle with outdated document management systems, leading to inefficiencies in information retrieval and archiving. Digital preservation is not a one-time investment; it requires continuous updates to technology and regular training for staff—areas often neglected in financially constrained institutions. Lambert and Foster (2021) emphasize that without strategic and sustained funding, digitalization efforts in many SUCs will remain fragmented and largely ineffective (Sprague, 1995; Currall & McKinney, 2006). There are four major issues with current document storage methods: lack of scalability, long retrieval times, high maintenance costs, and significant resource demands. Additionally, Javier et al. (2022) argue that new knowledge generated through research and development becomes ineffective unless it is disseminated, transformed into applicable technologies, and used to promote rural and national development (Billas et al., 2019; Stout & Graham, 2007; Las Johansen et al., 2017).

To address these issues and accelerate the research culture in the College of Business and Management (CBM) in a state university in the Philippines, the Academic Collection of Comprehensive Educational Studies System (ACCESS) is proposed. ACCESS is an educational and information platform aimed at enhancing instruction and promoting research utilization. Leveraging the widespread availability of internet technologies, this pilot project seeks to design, develop, and evaluate a web-based knowledge management and archiving system. The system serves as an online repository for research outputs from various disciplines within the college. It will provide a more organized, accessible, and sustainable means of storing and retrieving research materials. This initiative aligns with United Nations Sustainable Development Goal (SDG) 9, which promotes industry, innovation, and infrastructure. It mirrors the objectives of similar systems such as the Institutionally-Farmed Research Online Repository and Management System (InFORMS) of Cagayan State University (CSU), which aims to enhance instruction, generate knowledge, and improve research dissemination (Javier et al., 2022).

Through ACCESS, students and faculty in departments such as accountancy, business administration, office administration, entrepreneurship, and economics will gain direct digital access to research outputs. Currently, most student research projects are stored on physical shelves, limiting their accessibility. Once fully implemented following pilot testing, the proposed web-based system will significantly improve access to academic research, making it easier for faculty and students to publish, retrieve, and utilize these resources online.

This research aims to design and develop a web-based archiving system for the academic collection of the CBM. It also aims to assess the level of acceptability of the proposed system using the ISO/IEC 9126 software engineering standard and evaluate its usability using the System Usability Scale (SUS).

2. Literature Review

2.1. Effectiveness of Digital Transformation in Higher Education

The COVID-19 pandemic forced a sudden and drastic transformation in schools and education systems (Iivari et al., 2020). As a result, many universities that traditionally relied on face-to-face learning shifted to digital platforms (Rof et al., 2022). This transition reflects a broader trend influenced by Industry 4.0, which introduces new methods, systems, and management frameworks that significantly impact various aspects of human life (Mukul &

Büyüközkan, 2023). Technological advancements have accelerated the adoption of digital tools across workplaces, society, and education. For students, this digital shift has made it easier to adapt to and understand the digital transformation efforts within their universities. Today, digital technology serves not only as a tool but also as a dynamic ecosystem that generates new opportunities (Bilyalova et al., 2020). Technologies such as mobile computing, artificial intelligence, cloud services, blockchain, and the Internet of Things (IoT) are all key components of digital transformation (Warner & Wäger, 2018). Information technology is now considered a vital tool for various purposes, particularly in education (Oliveira & Martins, 2011). Consequently, digital transformation and technological adaptation have become increasingly important (Kraus et al., 2021). For instance, computer programs help students organize, annotate, and access learning materials more effectively, enhancing their academic experience.

In Malaysia, the Malaysia Education Blueprint 2015–2025 calls for a fundamental transformation in higher education to prepare students for a digitally driven future. The blueprint emphasizes the importance of digital literacy, critical thinking, and problem-solving skills as essential competencies for the 21st century (Malaysia Ministry of Education, 2015). Supporting this, Nair and Das (2019) identify digital literacy as a key factor in successful blended learning environments. Their research highlights the significance of background knowledge, core competencies, and digital attitudes in enhancing learning effectiveness. To foster digital maturity, higher education institutions (HEIs) have initiated various digital transformation initiatives (DTIs), focusing on the adoption of emerging technologies, the improvement of information management systems, and the development of human capital (Rof et al., 2022). The Malaysia Education Blueprint also underscores the role of digital literacy in equipping students for the Fourth Industrial Revolution. Research shows that digital literacy not only boosts academic performance but also enhances employability prospects (Nasreen et al., 2022).

Digital storytelling has emerged as a powerful method for improving digital literacy, creativity, and communication skills (Sadik, 2008; Smeda et al., 2012). Similarly, digital game-based language learning (DGBLL) has proven effective in enhancing vocabulary acquisition, especially among English as a Foreign Language (EFL) learners (Yunus et al., 2021). In the Philippines, higher education has undergone significant digital transformation, influenced by strategic efforts to enhance digital integration. A World Bank report (2022) recommends a

medium-term strategy for the Commission on Higher Education (CHED) to improve digital adoption in HEIs. This strategy aligns with global best practices and seeks to improve accessibility and quality through digital means. One major component of this transformation is the widespread use of Learning Management Systems (LMS). According to the World Bank (2022), 87% of private and 67% of public HEIs in the Philippines have adopted LMS platforms to foster more cohesive and accessible learning environments. This shift signifies a broader move toward robust digital infrastructures that support student engagement and efficient resource management.

Globally, digital transformation is recognized as a key factor in maintaining a university's competitive edge. A study in Education and Information Technologies emphasizes that embracing digital transformation allows universities to implement sustainable education management strategies (Rof et al., 2022). These strategies focus on improving administrative efficiency, academic delivery, and student outcomes through the integration of advanced technologies. However, challenges remain. A UNESCO case study (2023) notes that the Philippines has struggled with digital integration due to limited vision and experience with digital tools. Targeted digital literacy programs for both educators and students are essential to fully realize the benefits of digital transformation in higher education.

2.2. Challenges and Best Practices on Implementing Web-Based Archiving System

Historically, archives have carried a fascinating atmosphere despite the desolation of the concrete walls that surround them (Ernst, 2013). Archival methods are not limited to historical investigations; they are also used by scholars studying contemporary organizations. These methods often complement other research strategies such as fieldwork and surveys (Ventresca & Mohr, 2017). The practice of managing digital content has evolved significantly. Digital library practice refers to the development and operation of digital libraries on online platforms, representing functional and viable achievements in the library sciences (Xie & Matusiak, 2016). As research journals are increasingly published digitally, this shift offers the clear advantage of immediate access from virtually anywhere (Steenbakkers, 2005). In this context, Electronic Document Management (EDM) systems have become critical to institutions aiming to advance digital transformation. EDM systems enhance operational efficiency by enabling the creation, digitization, organization, indexing, classification,

searching, and archiving of documents using a variety of digital tools (Benmakhlouf & Chouaou, 2024).

Creating comprehensive web-based digital repositories plays an important role in modern information management. According to Okon et al. (2020), such systems assist users in managing all phases of the information lifecycle and simplify the creation process, allowing a broader population to contribute diverse multimedia content. An institutional repository is defined as "a set of services that a university offers to members of its community for the management and dissemination of digital materials created by the institution and its community members" (Lynch, 2003). The need for data to be findable, accessible, interoperable, and reusable (FAIR) has become an expectation within academic and research communities, as emphasized by Wilkinson et al. (2016). This principle guides current practices in scholarly communication and research data management.

Several initiatives illustrate the application of digital repositories and archiving in specialized fields. For example, the National Cancer Institute (NCI) and Washington University in St. Louis collaborated to develop The Cancer Imaging Archive (TCIA), an open-access, open-source resource supporting cancer research and education through advanced medical imaging (Clark et al., 2013). In the medical field, Reznick (2014) stressed that historical collections in medical libraries must "seize the initiative" to digitize their holdings before they become obsolete.

Digital archiving also plays a key role in academic research beyond medicine. CiteSeerX (2008) is a scientific literature digital library and search engine primarily focused on computer and information science. It aims to improve the accessibility, usability, efficiency, and timeliness of scientific information dissemination. Similarly, Figshare (2011) allows researchers to store and share scientific content like datasets and presentations. Zenodo (2013), launched by CERN as part of the European OpenAIRE initiative, provides an open-access platform for scholars and institutions to preserve and share research outputs. In the Philippines, various web-based archives support academic publishing and research dissemination. Philippine E-Journals (PEJ) is an online repository of academic publications from higher education institutions and professional organizations. Its advanced search features allow users to access full journal articles, abstracts, and related research. The Philippine Normal University (PNU) Publication Office serves as a hub for publishing scholarly books and journals in print and digital formats, reinforcing the university’s role as the National Center for Teacher

Education. Similarly, University of the Philippines Diliman Journals Online provides a centralized, free online service exclusively for U.P. Diliman publications. This initiative aims to enhance the visibility and accessibility of its journals while streamlining the editorial process for journal editors.

Despite the progress, concerns remain regarding the sustainability of digital formats. Steenbakkers (2005) warned that digital publishing may endanger long-term preservation, as formats, software, and storage media can quickly become obsolete. Cunningham (2008) argued that digital archiving requires continuous intervention across the entire records continuum. He noted that the Open Archival Information System (OAIS) model is insufficient because it overlooks the need for pre-ingest archival activities. For example, the National Archives of Australia (NAA) has faced challenges in implementing end-to-end digital archiving while maintaining traditional archival functions (Cunningham, 2008).

Digital archives also serve educational purposes at the undergraduate level. The concept of ACCESS was introduced to store and preserve undergraduate research projects. The goal is to provide future students with access to past research for reference and learning, promoting academic continuity and resource sharing.

2.3. Theoretical Framework

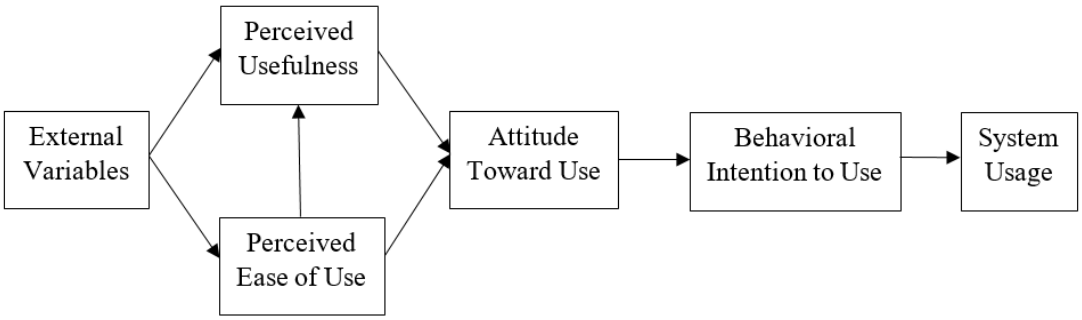
Several factors influencing individuals' adoption and use of technology have been extensively studied in the literature (Mugo et al., 2017). Among the various models developed to predict the acceptance of new technologies, particularly in educational contexts, the Technology Acceptance Model (TAM) has emerged as the most widely used and recognized framework (Kurnia et al., 2005). The TAM, originally proposed by Fred Davis as part of his doctoral dissertation at the University of Michigan’s Graduate School of Business Administration, is one of the most prominent theoretical models for explaining user behavior in relation to new technology. It focuses on two primary factors: perceived usefulness (PU) and perceived ease of use (PEOU), which influence users’ attitudes and behavioral intentions toward technology adoption.

TAM is grounded in the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), which posits that an individual's behavior is shaped by their attitude, subjective norms, and behavioral intentions. According to TRA, a person’s actual behavior is a direct result of their intention to perform the behavior, which is influenced by their personal attitude toward it and

the perceived expectations of others. Building on this, Davis (1989) identified three core factors in TAM that determine an individual's decision to accept and use technology: perceived usefulness (PU), the degree to which a person believes that using a particular system would enhance his or her job performance (Davis, 1989, p. 320); perceived ease of use (PEOU), the degree to which a person believes that using a particular system would be free of effort, derived from the general idea of "ease" as freedom from difficulty or great effort; attitude toward use (ATU), the degree to which an individual evaluates and associates the target system with his or her job (Davis, 1993); and behavioral intention to use (BTU), a person's intent to use a system, shaped primarily by their perceptions of PU and PEOU (Shroff et al., 2011).

Figure 1

The original Technology Acceptance Model (TAM) concept

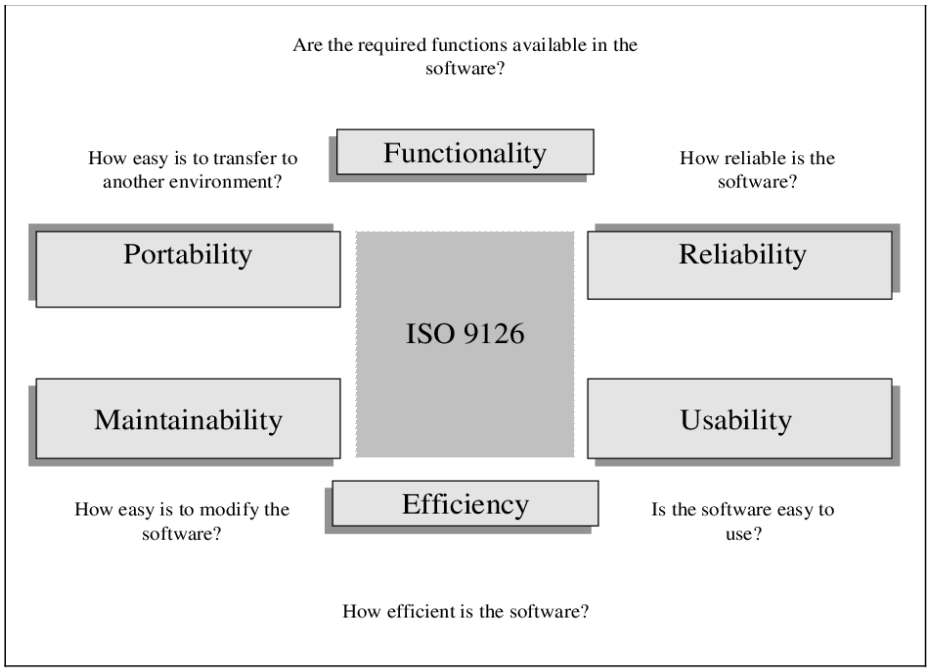


Source: Davis (1989)

In addition to TAM, this study integrates the ISO/IEC 9126 Model as an external variable to assess software quality. Specifically, it focuses on the following quality characteristics: functionality, reliability, and usability. The ISO/IEC 9126 standard (often misquoted as 9162) is used to evaluate software quality through four perspectives: the quality model, external metrics, internal metrics, and quality-in-use metrics (Uy et al., 2022). This international standard is particularly essential in assessing software-intensive and safety-critical systems, where software failure could have serious consequences (Al-Kilidar et al., 2005). The ISO/IEC 9126 model outlines six core quality characteristics: functionality, reliability, usability, efficiency, maintainability, and portability. Each of these characteristics is further divided into sub-characteristics, which in turn are broken down into specific attributes. These attributes are measurable and verifiable, providing a standardized approach to software evaluation.

Figure 2

ISO/IEC 9126 characteristics



Source: ISO/IEC 1991

Table 1

ISO/IEC 9126 sub-characteristics

Characteristic	Sub-characteristic	Explanation
Functionality	Suitability	Can software perform the tasks required?
	Accurateness	Is the result as expected?
	Interoperability	Can the system interact with another system?
	Security	Does the software prevent unauthorized access?
Reliability	Maturity	Have most of the faults in the software been eliminated over time?
	Fault tolerance	Is the software capable of handling errors?
	Recoverability	Can the software resume working and restore lost data after failure?
Usability	Understandability	Does the user comprehend how to use the system easily?
	Learnability	Can the user learn to use the system easily?
	Operability	Can the user use the system without much effort?
	Attractiveness	Does the interface look good?
Efficiency	Time Behaviour	How quickly does the system respond?
	Resource Utilization	Does the system utilize resources efficiently?
Maintainability	Analyzability	Can faults be easily diagnosed?
	Changeability	Can the software be easily modified?
	Stability	Can the software continue functioning if changes are made?
	Testability	Can the software be tested easily?
Portability	Adaptability	Can the software be moved to other environments?
	Installability	Can the software be installed easily?
	Conformance	Does the software comply with portability standards?
	Replaceability	Can the software easily replace other software?
All characteristics	Compliance	Does the software comply with laws or regulations?

When evaluating the acceptability and overall satisfaction with ACCESS, several theoretical models may be used in addition to the TAM and ISO/IEC software engineering characteristics. Notable alternatives include the DeLone and McLean Information Systems Success Model (D&M IS Success Model), the Unified Theory of Acceptance and Use of Technology (UTAUT), and ISO/IEC 25010.

The D&M IS Success Model identifies six key dimensions of information system success: information quality, system quality, use, user satisfaction, individual impact, and organizational impact (DeLone & McLean, 1992). One of its main advantages is the comprehensive framework it provides for evaluating both the technical and organizational outcomes of information systems (Papagiannidis, 2022). However, while this model is valuable for large-scale enterprise systems, its focus on service quality and organizational impact may make it less suitable for evaluating ACCESS, which is a relatively smaller-scale, academic web-based archiving system.

Similarly, the UTAUT model presents another robust option. Developed by Venkatesh et al. (2003), UTAUT synthesizes prior models of technology acceptance and introduces four main constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions. Performance expectancy refers to "the degree to which an individual believes that using the system will help him or her attain gains in job performance." Effort expectancy is "the degree of ease associated with the use of the system." Social influence is defined as "the degree to which an individual perceives that important others believe he or she should use the new system," while facilitating conditions describe "the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system." While UTAUT extends TAM by incorporating social and organizational factors, its complexity makes it less practical in academic environments where users—primarily students and faculty—are influenced more by system utility and ease of use than by social or institutional pressures. In such contexts, TAM remains the more suitable framework due to its simplicity and proven reliability.

In terms of software quality evaluation, ISO/IEC 25010, the successor to ISO/IEC 9126, introduces additional dimensions such as security and compatibility. The most recent version, ISO/IEC 25010:2023, outlines nine quality characteristics: functional suitability, performance efficiency, compatibility, usability, reliability, security, maintainability, and portability. While these dimensions are essential for enterprise-level systems, they may not all

be directly applicable to ACCESS, which functions as a web-based academic repository with publicly accessible content. For this reason, ISO/IEC 9126 remains a more practical choice, as it emphasizes the core characteristics of functionality, usability, and reliability—key attributes necessary for evaluating a digital archiving system like ACCESS.

Given these considerations, this study adopts a combined approach using TAM and ISO/IEC 9126, providing a balanced evaluation of ACCESS. TAM effectively captures user behavior, perceived usefulness, and ease of use, which are crucial for ensuring user satisfaction and promoting technology adoption. Simultaneously, ISO/IEC 9126 offers a structured framework for assessing the technical quality of the system, focusing on functionality, usability, and reliability. Together, these frameworks ensure a comprehensive evaluation of both the user experience and system performance. Moreover, this study explores the interrelationship between TAM and the ISO/IEC 9126 software engineering characteristics to understand how software quality influences user perception and behavior. For instance, functionality in ISO/IEC 9126 refers to a system's ability to perform required tasks, including appropriateness, correctness, interoperability, security, and compliance. Students and faculty assess the system's usefulness based on how well it meets their functional needs through hands-on interaction with ACCESS. A high level of functionality enhances PU, as users perceive the system to be beneficial in improving their productivity and efficiency.

Usability, another vital ISO/IEC 9126 characteristic, includes attributes such as understandability, learnability, operability, and attractiveness. This directly impacts how users interact with the ACCESS platform. A highly usable system minimizes the effort required to learn and operate, leading to higher PEOU. Systems that are intuitive and user-friendly promote greater technology adoption, as users are more likely to find them easy and efficient to use.

Reliability, the third key ISO/IEC 9126 attribute, evaluates the system's ability to perform consistently under specified conditions over time. A reliable system contributes to overall user satisfaction, reinforcing users' confidence in the platform. As satisfaction increases, so does the Behavioral Intention (BI) to continue using the system, reinforcing long-term adoption and integration into academic workflows.

3. Methodology

3.1. Research Method

This research used quantitative research method. The different quality characteristics in ISO/IEC 9126 were used to evaluate the level of acceptability of the proposed web-based thesis archiving system called ACCESS by the different groups of users including the core faculties and students across the five different courses in the College of Business and Management. Functionality, reliability and usability were evaluated by the intended users using descriptive-correlational design which are the external variables to determine the perceived usefulness, perceived ease of use, and the overall satisfaction of the proposed web-based thesis archiving system.

3.2. Sampling Technique

A random sampling technique was utilized for this study, where all members of the population have an equal chance to be selected. This method ensures that every individual in the population could be represented, eliminating the risk of biases.

Table 2
Demographic profile of the respondents

Characteristics	f	%
Gender		
Female	44	64.71
Male	23	33.82
Age		
18	6	9.7
19	2	3.2
20	4	6.5
21	10	16.1
22	22	25.8
23	7	11.3
24	3	4.8
25	6	9.7
27	2	3.2
32	3	4.8
33	1	1.6
35	1	1.6
39	1	1.6
Educational Attainments [Students]		
Bachelor of Science in Office Administration	43	65.15
Bachelor of Science in Accountancy	1	1.52
Bachelor of Science in Entrepreneurship	7	10.61
Bachelor of Science in Economics	11	16.67
Bachelor of Science in Business Administration - Financial Management	4	6.06
Educational Attainments [Faculties]		
Graduate	1	33.3
Master's Degree	2	66.67
Postgraduate	0	0

Table 2 shows the demographic profiles of the 68 respondents who participated in the survey. The predominant age groups among the respondents were 22 years (25.8%), 21 years (16.1%), and 23 years (11.3%). The majority were pursuing a Bachelor of Science in Office Administration (43 respondents, 70.8%), followed by Bachelor of Science in Economics (8 respondents, 13.8%), and Bachelor of Science in Entrepreneurship (6 respondents, 10.3%). Twelve respondents (9.7%) were aged 18 to 25. Four respondents (6.5%) were aged 20, while six (4.8%) were aged either 24 or 32. Additionally, four respondents (3.2%) were aged 19 to 27, and three respondents (1.6%) were aged 33, 35, or 39, respectively. Among these, at least two respondents (3.4%) were pursuing a Bachelor of Science in Business Administration major in Financial Management, and one respondent (1.7%) was taking up a Bachelor of Science in Accountancy.

3.3. Data Collection Procedures

To gather data, an online survey questionnaire was created using Google Forms for the faculty and students of the College of Business and Management. Respondents had the option to rate the questionnaire items based on their hands-on experience using the proposed web-based archiving system. Invitation letters were sent to students and faculty members, encouraging them to visit the website and complete the questionnaire.

The three-part survey instrument, designed for the faculty and students, was adapted from Uy et al. (2022), Fahmy et al. (2012), and Brooke (1986). The first part of the questionnaire collected the demographic profile of the respondents. The second part, composed of three sections, measured the level of acceptability of the web-based archiving system using the ISO/IEC 9126 software engineering standard. It focused on three criteria: functionality, usability, and reliability. This part included 10 guide questions based on the System Usability Scale (SUS), with each item rated on a 5-point Likert scale ranging from “strongly disagree” to “strongly agree.” The final part of the questionnaire assessed user satisfaction with the web-based archiving system in terms of functionality, reliability, usability, and overall satisfaction. Like the second part, this section also used a 5-point Likert scale ranging from “strongly disagree” to “strongly agree.”

4. Data Analysis

This study utilized a quantitative research approach to evaluate the acceptability and user satisfaction of the ACCESS. To examine the relationships between functionality, reliability, usability, and overall satisfaction, the Partial Least Squares Structural Equation Modeling (PLS-SEM) method was applied, following the ISO/IEC 9126 software engineering standards. Descriptive statistics, such as means, standard deviations, and frequencies, were used to summarize participants' feedback on system usability, functionality, and reliability.

To ensure internal consistency, reliability analysis was performed using Cronbach's Alpha and Composite Reliability (rho_a, rho_c), while construct validity was confirmed through Average Variance Extracted (AVE). Structural Equation Modeling (SEM) was employed for path analysis to test the hypothesized relationships among key variables, with statistical significance assessed using p-values and confidence intervals. Additionally, the system's usability was measured using the SUS, classifying its effectiveness based on usability benchmarks. The findings identified both strengths and areas for improvement in ACCESS, offering valuable insights for enhancing user satisfaction and system reliability.

5. Research Ethics

This research emphasizes the ethical considerations involving the respondents and the responsible management of data. In compliance with the Data Privacy Act of 2012 (Republic Act No. 10173), ethical protocols were implemented to protect participants' rights and ensure data confidentiality. Respondents were provided with letters containing detailed information about the study's objectives, methodology, potential risks and benefits, and informed consent was obtained from each individual.

Participation was strictly voluntary, and respondents retained the right to withdraw at any time without any consequences. To maintain confidentiality, all collected data were securely stored with restricted access. Additionally, data analysis and reporting were conducted in a manner that safeguarded the anonymity of individual participants, thereby upholding the principles of confidentiality and privacy throughout the research process. Furthermore, the Partido State University granted approval for the conduct of this research and the use of the institution's name for research and academic purposes.

6. Findings and Discussion

Table 3

Descriptive Statistics, Outer Loadings, Cronbach's Alpha, Composite Reliability (rho_a), Composite Reliability (rho_c) and Average variance extracted (AVE) for Functionality, Reliability, Usability and Overall Satisfaction

		Mean	Outer Loadings	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Functionality of the Website				0.96	0.961	0.969	0.864
F1	The website is performing the tasks required.	5.3871	0.913				
F2	The website's menu items are working	5.4194	0.895				
F3	The website has a "Contact Us" feature that allows users to get in touch with the website administrator.	5.5968	0.96				
F4	The website has an "About Us" feature that allows users to know the persons behind the project.	5.4839	0.954				
F5	The website displays its content even in other browsers.	5.3871	0.924				
Reliability of the Website				0.961	0.964	0.97	0.866
R1	The ACCESS can response error messages in case of any technical problems.	5.129	0.904				
R2	Processing Time	5.3387	0.922				
R3	Network Reliability	5.4355	0.939				
R4	The website's content is accurate.	5.4355	0.958				
R5	The website's content is up-to-date.	5.4516	0.928				
Usability of the Website				0.979	0.979	0.982	0.872
U1	The website usage is easy to learn.	5.5323	0.893				
U2	Consistency of Layout	5.8548	0.933				
U3	Ease of Accessibility	5.8226	0.926				
U4	Ease of understanding Information	5.9355	0.95				
U5	Ease of Performing Tasks	5.8548	0.941				
U6	Effectiveness of Design Content	5.9516	0.954				
U7	The website is user-friendly.	5.9032	0.926				
U8	The website's navigation can be used easily.	5.8387	0.946				
Overall Satisfaction				0.965	0.966	0.974	0.905
OS1	Overall Satisfaction [I am satisfied with the functionalities of the ACCESS System.]	5.5807	0.942				
OS2	Overall Satisfaction [I am satisfied with the reliability of the ACCESS System.]	5.5807	0.964				
OS3	Overall Satisfaction [I am satisfied with the usability of the ACCESS System.]	5.6774	0.952				
OS4	Overall Satisfaction [I am satisfied with the overall experience using the ACCESS System]	5.629	0.946				

Based on the given results, this study primarily established the constructs of examining the acceptability of ACCESS in terms of functionality, reliability, usability and overall satisfaction among Students and Faculties; the consistent reliability of each construct was considered unacceptable as having a composite reliability of 0.95 and above which are considered problematic since they showed that the indicators are redundant, thereby reducing the construct validity. It also implies the possibility of unfavorable response patterns (e.g., straight-lining), resulting in overstated correlations among the error terms of the indicators.

All scales were extracted from the results established in PLS-SEM, which means that the survey has somewhat not uniform validity as it shows that the constructs or characteristics functionality to overall satisfaction, overall satisfaction to usability are having problems same with constructs functionality to usability which shows a problematic result although they have a positive result therefore rejecting the hypothesis as they do not show any significant relationship due to overlapping. Only functionality to reliability, overall satisfaction to reliability and reliability to usability constructs in the survey indicates a good validity which indicates that the hypothesis had been accepted.

Table 4

Evaluation of path coefficients (original sample) and their significant levels

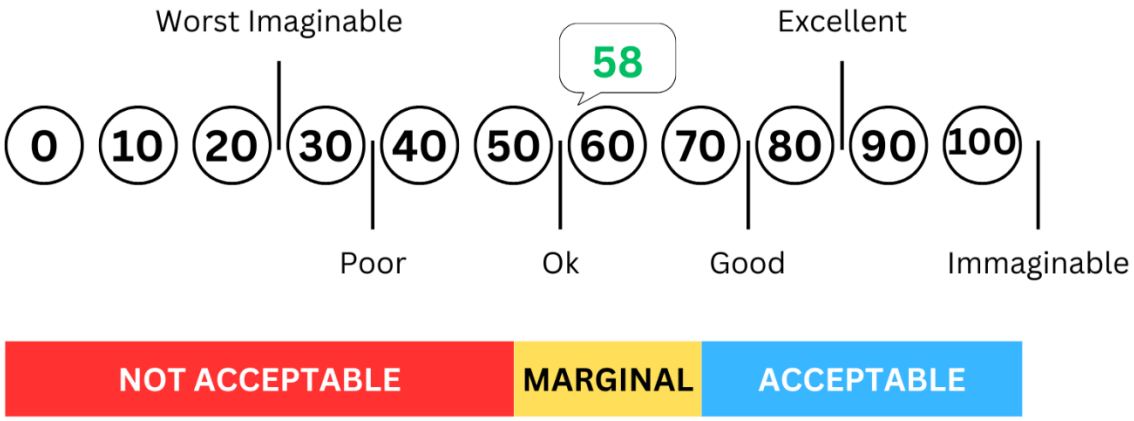
	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P values	Confidence Intervals	
						2.50%	97.50%
Functionality -> Overall Satisfaction	0.445	0.422	0.183	2.437	0.015	0.036	0.751
Functionality -> Usability	0.774	0.751	0.116	6.678	0	0.481	0.921
Reliability -> Overall Satisfaction	0.16	0.2	0.148	1.079	0.281	-0.038	0.535
Reliability -> Usability	0.168	0.187	0.119	1.418	0.156	-0.006	0.475
Usability -> Overall Satisfaction	0.352	0.331	0.161	2.183	0.029	-0.005	0.633

The perceptions of students and faculty regarding the acceptability of ACCESS, particularly in terms of its functionality, play a crucial role in influencing the overall user satisfaction and perceived reliability of the web-based archiving system. When users find the system functionally capable—meaning it performs its intended tasks efficiently and

effectively—they are more likely to express higher levels of satisfaction and trust in the system. This suggests that enhancing the system's functional capabilities can lead to greater user acceptance and more consistent usage within the academic setting. Furthermore, both functionality and usability demonstrate a positive relationship with overall satisfaction, indicating that users value systems that are not only capable but also user-friendly. This implies that improving system navigation, interface design, and task flow can significantly increase user satisfaction and system acceptability. However, the data also reveal that reliability, when paired with overall satisfaction and usability, does not exhibit a statistically significant positive effect. The p-values associated with these relationships—0.281 and 0.156 respectively—suggest that these associations do not meet the conventional thresholds for statistical significance (typically $p < 0.05$). This could indicate that users may not yet perceive the system as consistently dependable, or that reliability is overshadowed by more immediately apparent factors such as functionality and ease of use.

Figure 3

Data interpretation for system usability scale



To better understand and model the system's acceptability, the application of Partial Least Squares Structural Equation Modeling (PLS-SEM) is used. This approach allows for the analysis of complex relationships among multiple latent variables and can help identify both direct and indirect effects of various factors influencing system acceptability.

In terms of SUS results, ACCESS received a below-average rating, corresponding to an adjectival grade of "D". This places the system in the 15th to 34th percentile, indicating that users find the system somewhat difficult or unintuitive to use. Despite this, it achieves a

usability grade of "Okay", suggesting that while users are able to complete their intended tasks, they encounter notable challenges in doing so. These findings imply that the system currently meets only the minimum usability standards, and there is considerable room for improvement. To enhance the overall effectiveness, efficiency, and user satisfaction of the ACCESS system, it is essential to address the identified usability concerns. This may involve refining the interface, improving help features or error recovery mechanisms, and ensuring that system operations align with user expectations and workflows. Continued user feedback and iterative design improvements will be key to increasing the system's acceptability and long-term success within the institution.

5. Conclusion

This study primarily established the key constructs for examining the acceptability of ACCESS, a web-based archiving system, in terms of functionality, reliability, usability, and overall user satisfaction among students and faculty members. Using results derived from Partial Least Squares Structural Equation Modeling (PLS-SEM), the study found that not all constructs demonstrated consistent validity. Specifically, relationships such as functionality to overall satisfaction, overall satisfaction to usability, and functionality to usability showed positive but statistically insignificant relationships, indicating overlapping responses and potential issues with construct validity. These results may be attributed to straight-lining, a response bias where participants select the same answer across items, therefore leading to the rejection of the alternative hypothesis for these relationships. Conversely, relationships such as functionality to reliability, overall satisfaction to reliability, and reliability to usability demonstrated statistically significant associations, supporting the acceptance of the alternative hypothesis for these construct pairs.

The study has several limitations. Firstly, the data archived in the system were limited to the research outputs of a single faculty member in the College of Business and Management. The department does not currently require soft copies of undergraduate theses, resulting in a lack of available materials from previous students. Secondly, the number of respondents was limited to 62, which, while within acceptable range for PLS-SEM, may affect the generalizability of the findings. A larger sample size could yield different results. Lastly, the data collection process was constrained by a lack of time and several class cancellations caused

by typhoons in the region. Although the survey was conducted online, these disruptions still impacted the response rate.

The study concludes that while functionality has a significant impact on overall satisfaction with the ACCESS system, there is a need to address issues related to system dependability and enhance its functional capabilities. Regular content updates are essential to ensure that students and faculty have access to accurate and up-to-date research materials. This also underscores the need for systematic collection of soft copies of undergraduate research to enrich the system's content.

Furthermore, the study recommends encouraging active participation from both students and faculty in system evaluations to gather meaningful insights—particularly on functionality and reliability—that can inform future improvements. This collaborative approach can foster a culture of shared responsibility in improving research access and outcomes. Future researchers are encouraged to conduct comparative studies between ACCESS and similar systems used in other higher education institutions to identify benchmarks and areas for enhancement, ultimately contributing to the development of a more robust and comprehensive digital archiving system.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This work was not supported by any funding.

Institutional Review Board Statement

This study was conducted in accordance with the ethical guidelines set by Partido State University College of Business and Management under PSU-CBM-OA-09-2024.

AI Declaration

The author declares the use of Artificial Intelligence (AI) in writing this paper. In particular, the author used Quillbot and ChatGPT in paraphrasing and grammatical proficiency. The author takes full responsibility in ensuring proper review and editing of contents generated using AI.

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