

A Study on User Satisfaction with the Use of E-Books in Academic Libraries

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Abstract

This paper examines user satisfaction towards the utilization of e-books in academic libraries but more concentrated to Universiti Teknologi MARA (UiTM) Kota Bharu Campus. This study will analyze the satisfying elements of usability, accessibility and content quality of the application on user satisfaction, with the theoretical framework based on Technology Acceptance Model (TAM), Information Systems Success Model (ISSM) and Expectation Confirmation Theory (ECT). As a quantitative study design, a structured online questionnaire with 317 valid cases was used, descriptive statistics, Pearson correlation, and multiple regressions were conducted in SPSS. The results indicate that the three independent variables were positively related to user satisfaction and usability had a stronger association than the other independent variables. The significant dependence between the moderating factors and predicted variable is the ability to explain 75.6 percent of the variance of the satisfaction amongst the users. Even though the issue of accessibility is relatively less important, its contribution is essential in making e-book platforms accessible readily. This finding shows that academic libraries should improve e-book platform usability, content quality, and system accessibility in order to achieve better user satisfaction. The practical implications of the given findings are rather useful in the promotion of digital libraries and the body of knowledge regarding user-centred within an academic setting.

Keywords: user satisfaction, e-books, academic libraries, e-book usability, accessibility of e-books, content qualitative

Abstrak

Makalah ini mengkaji kepuasan pengguna terhadap pemanfaatan e-book di perpustakaan akademik, dengan fokus khusus pada Universiti Teknologi MARA (UiTM) Kampus Kota Bharu. Penelitian ini akan menganalisis elemen-elemen yang memengaruhi kepuasan pengguna, yaitu kegunaan, aksesibilitas, dan kualitas konten aplikasi, dengan kerangka teori yang didasarkan pada Model Penerimaan Teknologi (TAM), Model Keberhasilan Sistem Informasi (ISSM), dan Teori Konfirmasi Ekspektasi (ECT). Sebagai desain penelitian kuantitatif, kuesioner daring terstruktur dengan 317 kasus valid digunakan, statistik deskriptif, korelasi Pearson, dan regresi berganda dilakukan dengan SPSS. Hasil penelitian menunjukkan bahwa ketiga variabel independen berkorelasi positif terhadap kepuasan pengguna, dan kegunaan memiliki hubungan yang lebih kuat dibandingkan variabel independen lainnya. Ketergantungan yang signifikan antara faktor moderasi dan variabel prediksi adalah kemampuannya untuk menjelaskan 75,6 persen varians kepuasan pengguna. Meskipun isu aksesibilitas relatif kurang penting, kontribusinya sangat penting dalam membuat platform e-book mudah diakses. Temuan ini menunjukkan bahwa perpustakaan akademik perlu meningkatkan kegunaan platform e-book, kualitas konten, dan aksesibilitas sistem untuk mencapai kepuasan pengguna yang lebih baik. Implikasi praktis dari temuan ini cukup bermanfaat dalam mempromosikan perpustakaan digital dan pengetahuan tentang perpustakaan yang berpusat pada pengguna dalam lingkungan akademik.

Kata Kunci: kepuasan pengguna, e-book, perpustakaan akademik, kegunaan e-book, aksesibilitas e-book, konten kualitatif

1. Introduction

Academic libraries have adopted digital resources that now enable users to retrieve information differently while e-books assume a primary position in contemporary educational spaces. Academic institutions throughout the world choose e-books due to their quick accessibility along with portable

features and economical cost (Voravickositt, 2017). The adoption success of e-books depends on user satisfaction because this element produces both more frequent usage instances and better usage outcomes in academic environments (Nam & Choi, 2011). Digital education and remote learning needs have led academic libraries to implement e-books as their primary choice for serving readers. The optimization of digital library services depends heavily on user satisfaction research which has become essential because of this reason (Amrina & Rahmi, 2024). The satisfaction level of users depends on their perceptions about content quality alongside accessibility and usability (B. Sadueste & Masalinto, 2023). E-books are easily available, yet some educational institutions indicate their users do not take advantage of them due to concerns regarding user need alignment with these digital resources (Blummer & Kenton, 2020). The research investigates how satisfied library users feel when they use e-books within academic libraries. The research evaluates different service aspects such as accessibility together with usability and content quality to determine the key elements affecting user satisfaction as well as areas that need enhancement. An understanding of these features allows academic institutions to strengthen their digital library services and confirm e-books are effective for meeting educational targets (Wooyong Yi & Eunil Park, 2013). Modern digital developments have revolutionized academic libraries together with their user methods for accessing information resources. Higher education institutions heavily rely on e-books as their essential tool which enables teaching and learning research activities to flourish to support all academic functions. Academic libraries function as knowledge centre's that have adopted e-books as their information hub to improve students' and academics' ease of retrieval (Chowdhury, 2013). Springer (2014) indicates that the rise of e-books results from enhanced digital publishing methods along with the rise of mobile devices combined with heightened academic resource accessibility requirements.

E-book platforms incorporate several benefits which exceed the functionality of printed versions of books. The benefits of electronic books include instant use at any time and their mobile nature combined with quick search capabilities and clickable hyperlinks and multimedia resources (Mune & Agee, 2016). Single e-book files include many usability tools beyond basic text content such as customizable text display and integrated note functions and text highlight capabilities. E-books have become popular among students and researchers because of these functionalities that seamlessly integrate into academic work processes according to Jin, (2014).

The conversion to digital books faces multiple obstacles during its implementation process. Users have identified three main drawbacks when using e-books which include restrictive digital rights management measures and limited title availability and software usability problems. The ability of e-books to serve academic needs shows diversity because it depends upon content standards alongside platform convenience and appropriate title accessibility (Abu Qaadon et al., 2024). User satisfaction with e-books represents a vital topic for academic libraries that intend to deliver services which minimize burdens on their users.

Academic institutions have broadly accepted e-books because digital technological progress reshaped traditional methods of resource management in university libraries. E-books have become

essential for 21st-century academic institutes because they provide remote access and portability along with interactive capabilities while being cost-effective according to Lamothe, (2013) . The uninterrupted electronic availability of e-books gives students and researchers full-time access to learning materials without limitations thus improving their research output and study results (Park et al., 2015).

Universiti Teknologi MARA (UiTM) Kota Bharu Campus academic library and other institutions from around the world have broadened their e-book collections to serve digital learning requirements and meet students and faculty needs. Online learning combined with hybrid education models demand academic libraries to provide accessible and user-friendly e-books which support students' academic requirements. E-book user satisfaction becomes a fundamental problem since students and researchers face difficulties using the system and accessing content while DRM restrictions and poor accessibility continue to be challenges (Abu Qaadon et al., 2024).

User satisfaction acts as a primary metric to evaluate the success of e-books when adopted in educational institutions. User satisfaction depends on four main elements which include access convenience as well as usability together with content excellence and the experience of using the product (DeLone & McLean, 2003). Past research demonstrates that e-book users experience various interface problems and difficulties navigating the systems which negatively affects their satisfaction levels according to Rojeski, (2012). Students continue to choose printed books over digital versions for extensive reading purposes because they attribute these preferences to three main characteristics: exhaustion from screen time and uninterested behavior and problems with marking within texts (Jin, 2014). Various studies dedicated research to the determining variables that shape e-book user satisfaction. According to Mune & Agee, (2016) students value platforms which grant them easy multiple-device access when evaluating e-book systems. According to Jebril and Ahmad (2024) user satisfaction depends on content quality because students prefer e-books with exact precise and contemporary academic information. The researchers from (Comeaux & Frank, 2020) pointed out that user-friendly interfaces with effective search systems lead to better e-book adoption rates but usability problems deter users from adopting e-books.

There is still a lack of knowledge regarding the user satisfaction toward e-books within specific academic situations focusing on academic libraries at UiTM. Research has mainly studied general e-book adoption patterns but there is limited analysis of user perceptions in Malaysian educational institutions. The assessment of e-book satisfaction among UiTM students requires evaluation of current offerings in relation to user requirements so that service improvements can be determined.

The research analyses user satisfaction regarding e-books at UiTM Kota Bharu Campus academic libraries while investigating the elements that affect student e-book perception. The study evaluates user experiences to discover methods that academic libraries can implement in their e-book services for better supporting students and researchers. The research findings will enable UiTM and similar educational establishments to adjust their digital library plans thus maintaining e-books as essential research and learning tools.

E-book platforms incorporate several benefits which exceed the functionality of printed versions of books. Instant access alongside portability and search functionality and interactive traits such as hyperlinks and multimedia elements represents benefits of such books (Mune & Agee, 2016). Single e-book files include many usability tools beyond basic text content such as customizable text display and integrated note functions and text highlight capabilities. E-books have become popular among students and researchers because of these functionalities that seamlessly integrate into academic work processes according to Jin, (2014).

The conversion to digital books faces multiple obstacles during its implementation process. Users have voiced complaints about DRM limitations and limited book accessibility and usability problems related to e-books. The ability of e-books to serve academic needs shows diversity because it depends upon content standards alongside platform convenience and appropriate title accessibility (B. Sadueste & Masalinto, 2023). User satisfaction with e-books represents a vital topic for academic libraries that intend to deliver services which minimize burdens on their users.

This study addresses the gap by investigating the relationship between user satisfaction and the use of e-books in academic libraries, aiming to provide insights for enhancing the quality of digital library services. *Low Utilization of E-books in Academic Libraries.* E-books purchased by academic libraries have received substantial funding, yet colleges and universities still show less than anticipated usage numbers. Students along with faculty members tend to use print materials instead of e-books because they encounter compatibility issues with devices and difficulties finding their way through e-book platforms and academic content is not sufficient (Mune & Agee, 2016); (Ahmad & Brogan, 2016).

System limitations impair both the usage of e-books and lower their potential academic value as library resources. Users have trouble using e-books because they are unfamiliar with available resources as well as their technical limitations (Khan et al., 2021). The successful implementation of e-books depends on resolving existing obstacles because academic libraries must provide their users with modern resources. Academic libraries invested substantially into obtaining e-books as part of their digital resource offerings. The current student adoption numbers fall short of projected expectations.

Users encounter numerous problems when using e-book platforms because they display device-related compatibility issues. A fundamental problem limits users from accessing electronic reading when they exclusively choose mobile phones or tablets or e-readers. The usability of e-books diminishes when devices fail to operate smoothly with each other. The navigation, and user interface elements of many e-book platforms show weaknesses in their design because they fail to provide intuitive interface features. User interaction with the platform decreases when important functions such as search access and text marking or note-taking prove difficult and time-consuming. Academic libraries deliver a wide array of e-books to users although customers still need to navigate the system to locate relevant content matching specific research needs. Users may abandon electronic resources because the available content fails to align specifically with their needs thus causing them to return to physical books together with other online materials (Hilaby et al., 2023).

The wide selection of e-books fails to attract academic library users because these users lack both sufficient knowledge about available resources and the necessary skill abilities. User difficulties in accessing digital platforms and navigation together with usage skills demonstrate a decrease in the consistency rates of their platform activity (Mustafa et al., 2021). Multiple factors lead to the underutilization that undermines the worth and academic purposes of e-books used in educational institutions. Academic success of users depends on academic libraries addressing these barriers to make their digital resources usable for effective academic purposes. Lack of Comprehensive Insights into User Satisfaction Levels. User satisfaction evaluation of e-books remains poorly understood by academic libraries which creates a major problem for their research. Academic research at present ignores the unique requirements and preferences which students have together with other academic users (Zhang et al., 2017); Jbeen et al., 2022). The identification of crucial elements affecting satisfaction between libraries and their users shows difficulty because usability problems and content alignment and accessibility function remain hidden. The lack of effective feedback methods prevents libraries from properly assessing their e-book service effectiveness while blocking their ability to create specific implementation improvements (Khan et al., 2021). Lack of user satisfaction insights leads libraries to waste their investments on inadequate resources and unsatisfactory platforms which diminish their ability to help students achieve academic success.

The assessment of e-book user satisfaction represents a vital requirement for academic libraries to enhance their services but existing research about this appears inadequate. Various factors cause this lack of comprehension because existing studies about e-book usage apply broad strategies without recognizing distinct requirements between student populations and academic personnel. Groups possess different expectations about how systems should be navigable as well as the materials they must access and their system entry points.

Current studies mainly select general usage rates as research metrics while ignoring essential elements such as platform usability and content quality, accessibility and user support. The disregarded elements have essential functions in building the user experience. Hospital libraries typically operate without structured frameworks to receive systematic user feedback about their services. The absence of these mechanisms limits libraries from obtaining useful insights about their e-book services while keeping them from discovering their pain points. Strategic resources need proper understanding of user satisfaction to improve strategic priorities and optimize resource distribution effectively. Appendments aimed at new e-book systems or electronic content acquisition often overlook what users truly need which causes organizations to waste resources and achieve less than optimum outcomes.

User satisfaction suffers immediately as well as long-term benefit of academic libraries for digital education and research because of inadequate user insights. The gap should be addressed by specific research in combination with feedback collection to drive optimization of e-book services and boost user experiences.

2. Literature Review

Previous studies regarding e-book satisfaction form the basis of the third section of this article. A systematic assessment of user satisfaction with e-books exists through this review which evaluates accessibility together with usability and content quality and their combined effect on student interactions with academic libraries at Universiti Teknologi MARA Kota Bharu Campus. This review section establishes an in-depth knowledge of e-book user satisfaction within academic institutions by analyzing existing research. The research study adopts its theoretical framework in the fourth section. The chapter finishes with the concluding section.

Academic libraries that adopt e-books have revolutionized how students in higher education institutions gain access to information and share knowledge. The prevalence of digital resources demands a deeper comprehension of user satisfaction rate influencers since digital success depends on it (Huang et al., 2017). The combination of improved access and mobility and lower costs give e-books value as modern teaching tools in educational spaces (Author et al., 2016).

The research examines major e-book user satisfaction elements by studying accessibility along with usability together with content quality while analyzing these factors on student visits to academic libraries. This research employs Expectation-Confirmation Theory (ECT) combined with Technology Acceptance Model (TAM) for digital resource evaluation according to Davis (1989) and Oliver (1980). The critique evaluates previous research about e-books' contribution towards educational achievements while exploring their benefits in learning procedures coupled with decreased access challenges. This review establishes a conceptual basis for studying how academic library users feel about reading electronic books at higher educational institutions like Universiti Teknologi MARA Kota Bharu Campus.

A comprehensive review of existing studies will demonstrate the need for additional research on user satisfaction concerning e-book utilization. Electronic books known as e-books deliver digital versions of printed texts for reading through computers and tablets and e-readers according to (Rojeski, 2012). The information consumption model transformed with e-books due to search engine capabilities and linkable references and media integration to boost educational outcomes (Hamad et al., 2024). Academic libraries provide expansive e-book collections by storing great amounts of information and allowing learners to remotely access materials which matches the current digital learning space requirements (Dinkelman & Stacy-Bates, n.d.).

The review examines essential user satisfaction factors about e-books based on accessibility and usability as well as content quality and their joint effects on student experiences within academic libraries. Digital resource evaluations adopt Expectation-Confirmation Theory (ECT) combined with Information System Success Model together with Technology Acceptance Model (TAM) as their research framework (Davis, 1989; DeLone & McLean, 2003; Oliver, 1980).

The analysis reviews existing literature which explores e-book applications for academic success and learning improvement together with knowledge access facilitation. The results obtained from this review

establish a base for researching how e-books affect user satisfaction in academic libraries particularly in settings such as Universiti Teknologi MARA (UiTM).

This section combines existing research to reveal gaps in knowledge about user satisfaction involving e-book use while establishing the value of further analysis in this field. E-books have been integrally added to the library resource base for years despite their status as established technology. The terminology maintained a constant definition regarding e-books has failed to stabilize. The multiple terms used to describe electronic books include e-books together with electronic books and online books and digital books. Some degree of uncertainty exists regarding e-books because of the various terms used to describe them.

Thorough comprehension of the term 'e-books' depends on an analysis of scholarly and library practitioner definitions of e-books. The (*E-Books for FE Focus Group - Jisc*, n.d.) reported several years ago that an acceptable definition of 'e-book' was missing which resulted in ambiguity that could affect e-book adoption particularly within academic publishing.

E-book terminology changes frequently because new digital content technology improvements (Dinkelman & Stacy-Bates, n.d.). The uncertain nature of the 'e-book' definition stands out as one key factor which confuses multiple research studies. The Oxford English Dictionary defines an electronic book format as such content which readers access through computational devices and the Internet as well as dedicated reading screens. The definition extends to all hand-held systems designed for book reading according to the standards of the (*Oxford Dictionary*, n.d.).

The research literature contains multiple additional definitions of e-books apart from the dictionary definition. Multiple researchers have established the broader definition of e-books through descriptions of electronic texts appearing on screens as shown below. According to Wooyong Yi & Eunil Park, (2013) e-book refers to any continuous text body of some size which people can consume on screen desktop devices. The electronic version of printed books known as 'E-books can be accessed through Internet connections (Fahimifar et al., 2016).

2.1. Research Framework

The study model evaluates factors underlying user satisfaction with electronic book utilization in higher learning institutions. The study uses information systems and theory-based standards of user satisfaction to examine how users utilize technology for their purposes. User satisfaction arises from e-Books usage by nature according to the suggested study analysis, which subjects vital elements of this connection to scrutiny through formulated hypotheses. The figure 1 illustrates how e-book usage leads directly to improved user satisfaction because effective digital resource systems improve learning quality according to the research model. Structural operation incorporates aspects of Information Systems Success Model developed by DeLone and McLean (1992; 2003). According to the model, user satisfaction is the key indicator of system success. Success of satisfaction is dependent upon system utilization because e-book technology demands easy access as well as efficient use. Technology Acceptance Model (TAM)

(Davis, 1989). End-users apply TAM for embracing technology via recognition of its usefulness as well as its simple operating procedure. The research operates on the basis that satisfied users originate from systems that deliver useful performance in accordance with user needs. Expectation Confirmation Theory (Oliver, 1980). Satisfaction levels of users depend directly on how well digital resources are customized according to their individual requirements according to this theory. The satisfaction of e-book users improves when they encounter system features which fulfil their preconceived requirements. The study validates three total hypotheses represented by H1, H2, and H3 to investigate the full relationship between e-book usage and user satisfaction domains. Academic researchers establish these hypotheses to inspect three core segments of system application along with use effects and student involvement in educational settings. Through this integrated approach the framework delivers complete knowledge about how e-Books improve satisfaction levels in academic library environments. A theoretical framework supports the study's foundation by directing research methods and analysis and presenting knowledge about e-book use patterns together with their impact on library service operations. The research-based document explores the relationship between accessible content quality and user satisfaction and e-Book usability. A conceptual framework uses three constructs usability and accessibility together with content quality—for studying how they result in user satisfaction. The constructed framework matches accepted information systems theories including the Technology Acceptance Model (TAM) and Information Systems Success Model that identify system quality and information quality along with user experience as factors for predicting satisfaction. The diagram found in Table 3 displays the relationships that begin with usability followed by accessibility before ending with content quality to reach user satisfaction. The framework presents an entire method to understand and examine elements affecting student satisfaction with academic library e-books.

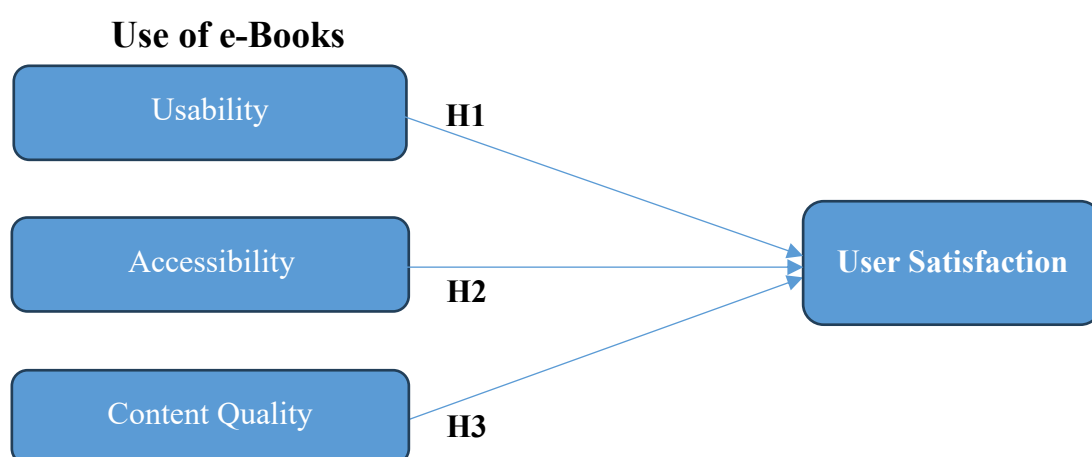


Figure 1 Research Framework

Usability

Usability as an independent variable in e-book usage. The usability of an e-book platform represents its ability for users to perform their desired tasks efficiently together with ease. The three essential usability factors consist of simple navigation paths as well as straightforward learning scheduling and friendly user interactions. The perceptions and usage patterns of students toward e-Books are directly affected by usability according to Tovstiadi et al., (2018). An interface system that functions seamlessly reduces user mental efforts therefore their mind stays focused on learning goals. The user experience becomes better through search functionalities as well as bookmarking and annotation features which lead to higher satisfaction levels.

Accessibility

Accessibility as an independent variable in e-book usage. People need to easily acquire e-Books through compatible platforms as well as assistance systems for their functionality. According to (B. Sadueste & Masalinto, 2023) accessibility functions as an essential component because it directly affects user satisfaction within digital libraries. Users prefer platforms giving them easy access to resources through multiple devices including smartphones tablets and computers if there are no substantial technical challenges in the way. Internet reliability and ease restrictions for downloading e-Books help improve system accessibility. Users tend to express greater satisfaction when they stumble upon fewer barriers to accessing information.

Content Quality

Content quality as an independent variable in e-book usage. The quality of e-book content relates to both its information accuracy together with its relevant content and complete information delivery to users. According to (Sritharan, 2018) users directly associate content quality with their evaluation of e-book value and satisfaction levels. Users develop trust and keep using library services because high-quality e-Books satisfy their educational or factual requirements. Students tend to be satisfied with e-book materials that update their content with reliable resources while providing interactive interfaces.

User Satisfaction

User Satisfaction as a dependent variable in e-book usage. The User satisfaction stands for how well students believe e-books fulfill their educational and research requirements and this affects their decision to keep using e-books. User satisfaction operates as a central indicator of digital resource performance in academic libraries by determining user expectations about usability and resource accessibility and content quality as well as complete interface satisfaction (DeLone & McLean, 2003). E-books gain approval from students who consider them advantageous for academic learning as well as research activities (Razilan Abdul Kadir et al., 2016). User satisfaction with e-books exists because of four influential elements which combine academic relevance along with accessibility and usability features and total user experience performance. Student satisfaction enhances through effective academic and research-oriented e-books usage which leads to continuous frequent e-book engagement. Academic libraries should enhance e-books accessibility combined with better usability and improved quality to guarantee full student benefits from digital resources in their academic learning.

The research framework utilizes Information Systems Success Model and Technology Acceptance Model (TAM) as well as User-Centered Design principles for conducting a comprehensive analysis of e-book user satisfaction. User satisfaction depends on different elements of effective e-book utilization with special consideration given to usability and accessibility together with content quality according to the proposed research. The research hypothesis development relies on these conceptual dimensions. The framework emphasizes examination of user experiences and needs because it drives satisfaction levels which helps academic libraries create e-book services appropriate to shifting needs. This method serves educational research by selecting specific participants who fulfill certain requirements to deliver valuable findings (Kassiani Nikolopoulou, 2022). According to (Jin, 2014) the next action follows the achievement of finalizing the research theoretical framework before moving onto research design development. The research design functions as an analytical framework that directs both data collection and research analysis according to (Mustafa et al., 2021). A research design represents a strategy which enables researchers to answer their initial investigation question or test the hypothesis that initiated the study according to (Jebril & Ahmad, 2024).

3. Methodology

3.1. Population

In research, the population refers to the entire group of individuals or elements who share specific characteristics and from whom data may be collected to address the research problem (Creswell & Creswell, 2018). For this study, the population consists of students enrolled at Universiti Teknologi MARA (UiTM), Kelantan Branch, Kota Bharu Campus, who have experience using the e-book services provided by the university's academic library. This population was selected based on their role as primary users of digital library resources in the academic setting. Students routinely access e-books for academic purposes such as reading course materials, completing assignments, conducting research, and preparing for examinations. Their frequent interaction with the e-book platforms makes them highly suitable for evaluating satisfaction in terms of usability, accessibility, and content quality—the three core constructs of this study. The inclusion of students across different faculties and programs was intended to ensure that the findings reflect a broad and diverse user experience. Students from various academic backgrounds may have different levels of reliance on e-books depending on the nature of their courses. Therefore, incorporating responses from a wide spectrum of users enhances the representativeness of the study.

Furthermore, focusing on this population aligns with the Expectation Confirmation Theory (ECT) (Oliver, 1980), which emphasizes that satisfaction is influenced by whether user expectations are confirmed or disconfirmed after actual use. Since students are the primary consumers of e-book services in academic libraries, their evaluations are directly tied to expectations regarding the ease of use, availability, and relevance of e-book content. In conclusion, the population of this study is composed of UiTM Kota Bharu students who have accessed and used e-book services. Their role as active users of digital library resources

makes them an appropriate and essential group for exploring the factors influencing user satisfaction with e-books in the academic library environment.

3.2. Sample

The sample of a research study refers to the specific group of individuals selected from the population to participate in the research and from whom data are collected (Creswell, 2018). In this study, the sample comprised students from Universiti Teknologi MARA (UiTM), Kelantan Branch, Kota Bharu Campus, who have used the university's e-book services provided through the academic library system. To determine the sample, a non-probability purposive sampling technique was employed. This method was chosen due to its suitability in identifying respondents who possess specific characteristics relevant to the research objectives—namely, experience in using e-book platforms (Etikan, Musa, & Alkassim, 2016). Only students who had previously accessed and used the academic library's e-book resources were included, as their insights were deemed essential for accurately evaluating satisfaction levels in relation to usability, accessibility, and content quality. The sample size for this study consisted of 317 respondents, which was deemed adequate based on general recommendations for quantitative research in social sciences. According to Sekaran and Bougie (2016), a minimum sample of 200–300 is considered sufficient for survey-based research that employs multivariate analysis techniques, such as correlation and regression. The selected sample size provided a reasonable balance between statistical power and feasibility of data collection within the given time frame. Furthermore, the sample included respondents from various academic programs and faculties, including the Faculty of Business and Management, the College of Computing, Informatics and Mathematics, and other relevant departments. This ensured diversity in terms of academic background and exposure to different types of digital content. Both undergraduate and postgraduate students were included to provide a comprehensive view of the user experience across academic levels. In conclusion, the sample selected for this study consisted of 317 UiTM Kota Bharu students, identified through purposive sampling based on their experience with e-book usage. The diversity of the sample in terms of faculty, program, and academic level allowed for a well-rounded assessment of user satisfaction, and the sample size was appropriate for the statistical methods applied in the study.

3.3. Techniques

The data collection process is a critical phase in research, as it directly influences the reliability and validity of the findings. For this study, data were collected through a structured online questionnaire, which was designed to assess student satisfaction with the use of e-books in academic libraries. The questionnaire was distributed to students of Universiti Teknologi MARA (UiTM), Kelantan Branch, Kota Bharu Campus, who had experience using the university's e-book services. The data collection process began after obtaining necessary permissions from the Faculty and Library Management. An official cover letter was included with the online questionnaire to explain the purpose of the research, ensure confidentiality, and confirm voluntary participation. The survey was administered via Google Forms, a widely accepted platform that supports efficient, remote, and contactless data collection, particularly relevant during the post-pandemic academic setting (Creswell & Creswell, 2018). The questionnaire link was shared with

students through academic email lists, and WhatsApp groups. This approach allowed for broader dissemination across multiple faculties and study levels. Respondents were given a period of approximately two weeks to complete the questionnaire, and periodic reminders were issued to encourage participation. To ensure the quality of responses, the questionnaire included clear instructions and used closed-ended questions with a five-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree." The structured format facilitated easier quantitative analysis while minimizing variability in interpretation. Responses were automatically recorded and exported into a Microsoft Excel spreadsheet, which was later imported into Statistical Package for the Social Sciences (SPSS) for analysis. This online and structured approach to data collection was appropriate for the study's quantitative, survey-based design. It allowed for fast, efficient collection of data from many students and ensured that all participants had access to the survey regardless of time or location, reinforcing the inclusivity and accessibility of the research process.

4. Result

4.1. *Response Rate*

This study used a quantitative survey method involving the distribution of structured questionnaires to students at Universiti Teknologi MARA (UiTM) Kota Bharu Campus. The survey targeted students who had experience using e-books provided by the academic library. The sampling technique aimed to select respondents who were actively involved with the e-book service, ensuring the relevance and accuracy of the data collected. A total of 302 students were initially targeted based on the sample size determined using the Raosoft calculator from a total of 1394 students. However, 317 completed questionnaires were successfully collected and returned, exceeding the target and resulting in a response rate of 104.97%. This very high return rate indicates strong interest and engagement among students with the subject of e-book use and satisfaction in the academic library. The higher-than-expected number of responses contributed positively to the reliability and validity of the study findings. It also strengthened the generalizability of the results in the context of UiTM Kota Bharu Campus. Complete and valid responses provide a robust data set for conducting statistical analysis, including descriptive statistics, correlation analysis and regression modelling.

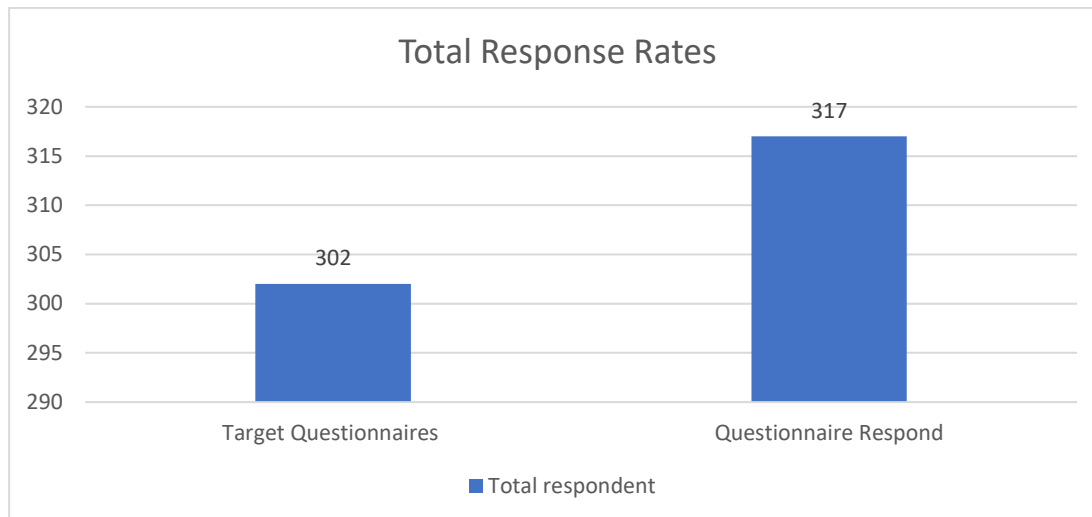


Figure 2 Response Rates

4.2. Data Analysis

User satisfaction levels on e-books are measured using quantitative analysis techniques as the research data analysis process. Analysis of data will use descriptive statistics with mean together with median and standard deviation to summarize trends in user satisfaction. Correlation analysis between accessibility, usability, content quality, and overall satisfaction variables will use inferential statistical techniques such as correlation analysis and regression models as described in B. Sadueste & Masalinto, (2023). The data gathered will be examined by the researchers through SPSS statistical package for precise and reliable results. These procedures detect significant relationships which show academic libraries what are the key factors that impact satisfaction of their users. This review combines essential research elements of e-book user satisfaction by analysis of usability conditions and accessibility features and content material quality and their combined impact on learner library experiences. This research study uses ECT and TAM as its theoretical bases for digital resource evaluation because they have been widely used in review research (Davis, 1989; Oliver, 1980).

The literature review discusses past research that indicated how e-Books facilitate academic achievement while enriching the learning process and minimizing learning barriers. This foundation from the literature review will guide research on user satisfaction levels and e-book use in academic libraries with a particular measure of Universiti Teknologi MARA (UiTM) Kota Bharu campus. Researchers compared data obtained from studies using descriptive statistics methods coupled with inferential statistical methods. The used methods were focused on correctly understanding the variables relationship and testing research hypotheses correctly. Descriptive statistics was used in the research to produce meaningful results concerning the sample population attributes and research variables. Mean and standard deviation with frequency distribution and percentage distribution functions allowed researchers to measure participants' responses in terms of e-book satisfaction and usability and accessibility and quality of content. The descriptive analysis provided a detailed presentation of the trends of the data that enabled researchers to identify shared responses among participants (Khan et al., 2021). The hypothesized hypotheses were tested

through inferential statistical analysis for independent variables (e.g., usability, accessibility, quality content) and their relationship with the dependent variable of user satisfaction. Correlation analysis was among the tests compared.

Statistical Package for the Social Sciences (SPSS) software was utilized to analyse statistics since it has the capacity to deal with survey data and test study hypotheses according to (Pallant, 2020). Quantitative data collected from a structured survey was analysed using statistical software Statistical Package for the Social Sciences (SPSS). The findings are then presented systematically, beginning with reliability analysis to assess internal consistency of the measurement instruments, followed by descriptive statistics to establish summary statistics of opinions from the respondents. Correlation analysis was then used to test inter-relationships between the important variables, and multiple regression analysis was then applied to determine predictive functions of usability, accessibility, and quality of content towards user satisfaction.

4.3. Descriptive Statistics

Descriptive analysis was applied to display the central tendency and variation of the four main variables in this research: User Satisfaction, Usability, Accessibility, and Content Quality. The results, as indicated in Table 4.2, reveal that all the variables recorded quite high mean ratings, which indicate mostly positive feedback from the 317 participants. Among the variables, Content Quality had the highest mean rating ($M = 4.1965$, $SD = 0.72933$), indicating that the respondents perceived the content provided through the e-book system as being of good quality. Usability had the lowest mean rating ($M = 4.0829$, $SD = 0.79536$), but nonetheless positive, indicating that the system was mostly perceived to be usable but perhaps not necessarily optimal. All the variables had standard deviations between 0.72933 and 0.79536, indicating a relatively consistent response pattern among the participants. All data set was free of missing responses, as indicated by valid N value of 317 (listwise). The findings provide a general idea of user perception and satisfaction level of the e-book services in question.

Table: 4.2 Descriptive Statistics

	N	Mean	Std. Deviation
User Satisfaction	317	4.1762	.74763
Usability	317	4.0829	.79536
Accessibility	317	4.1528	.75261
Content Quality	317	4.1965	.72933
Valid N (listwise)	317		

4.4. Correlation Analysis

To identify the correlations between User Satisfaction, Usability, Accessibility, and Content Quality, a Pearson correlation analysis was used. Table 4.3 demonstrates that all the variables are highly and positively correlated with each other at the 0.01 level of significance (2-tailed). The value of respondents (N) for all the pairs of correlations is 317, which ensures that the statistical outcomes are reliable and consistent. User Satisfaction is strongly correlated with Usability ($r = .833$, $p < .001$), Accessibility ($r = .818$, $p < .001$), and Content Quality ($r = .818$, $p < .001$). These results reveal that greater usability, accessibility, and content quality are linked to greater user satisfaction. Usability also has a very high

positive correlation with Accessibility ($r = .847, p < .001$) and Content Quality ($r = .827, p < .001$), which is to say that systems or platforms that are perceived as more usable are also perceived as being more accessible and having more quality content. The strongest correlation in the table is between Accessibility and Content Quality ($r = .874, p < .001$), which suggests that as accessibility is improved, content quality perceptions also improve. These findings provide strong validation of the interdependence of the variables examined. In particular, the high correlation scores demonstrate that enhancing usability, accessibility, and content quality can go a great distance towards increased user satisfaction. The results are shown in Table 4.3.

		User Satisfaction	Usability	Accessibility	Content Quality
User Satisfaction	Pearson Correlation	1	.833**	.818**	.818**
	Sig. (2-tailed)		<.001	<.001	<.001
	N	317	317	317	317
Usability	Pearson Correlation	.833**	1	.847**	.827**
	Sig. (2-tailed)	<.001		<.001	<.001
	N	317	317	317	317
Accessibility	Pearson Correlation	.818**	.847**	1	.874**
	Sig. (2-tailed)	<.001	<.001		<.001
	N	317	317	317	317
Content Quality	Pearson Correlation	.818**	.827**	.874**	1
	Sig. (2-tailed)	<.001	<.001	<.001	
	N	317	317	317	317

** . Correlation is significant at the 0.01 level (2-tailed).

Table 4.3: Pearson Correlation Coefficients

4.5. Regression Analysis

Multiple linear regression was performed to examine further into how predictive usability, accessibility, and the quality of the content are of user satisfaction. Table 4.4 shows the Model Summary and depicts the extent of the predictive power of a dependent variable, User Satisfaction, by the model comprising the independent variables, Usability, Accessibility, and Content Quality combined. The multiple correlation coefficient (R) is .870, which states that the relationship among the predictors and user satisfaction is very high of a positive nature. The value of the R Square statistic is .756 or 75.6 percent of the variance in the satisfaction of the users through the total effect of usability, accessibility, and quality of content. Adjusted R Square is a bit reduced to .754, which considers the number of predictors in the model and estimates explained variance of the population better. The Standard Error of the Estimate = .37096, which is an average value of how far the observed values locate on the side of the regression line. The less the standard error the better the suit of the model. The results are well established that the regression model is a good and significant description of the user's satisfaction with the three predictor variables that explain most of the variability. Table 4.4 summarizes the results.

Table 4.4: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.870 ^a	.756	.754	.37096

a. Predictors: (Constant), Content Quality, Usability, Accessibility

b. Dependent Variable: User Satisfaction

4.6. Regression Coefficients

The multiple regression coefficients were utilized in analyzing the individual efforts of each predictor variable, Usability, Accessibility and Content Quality in predicting User Satisfaction as indicated in Table 4.5. The standardized beta coefficient (beta, 0.408) is the largest and statistical significance ($t = 7.302$, $p < .001$) about the use of usability. This implies that the positive role that usability plays in user satisfaction is the greatest of the three predictors. The unstandardized coefficient ($B = .383$) implies that as the level of usability is increased by a single unit, the user satisfaction is pushed up by 0.383 units, other conditions always unchanged. User satisfaction also relates positively with Content Quality and at a significant margin ($r = .289$, $t = 4.734$, $p < .001$). The $B = .296$ unstandardized coefficient means that the sat user satisfaction increases by 0.296 units when the quality of content increases by a single unit. Accessibility reduces but does not insignificantly impact user satisfaction ($b = .221$, $t = 3.421$, $p < .001$). It has an unstandardized coefficient of ($B = .219$) in which a unit increase in accessibility increases user satisfaction by 0.219 units given that the other variables are held constant. All three predictors are significant with the p-value of less than .001 strength, proving their substantial roles in the regression model. The findings indicate that Usability has the greatest effect on User Satisfaction and Content Quality and Accessibility follow them respectively. The results of the studies emphasize this significance in focusing on usability enhancing aspects when it comes to the design of systems or platforms that will aim at increasing user satisfaction. Table 4.5 shows the unstandardized reluctance and standardized reluctance estimation, the t-stats and significance level of the regression coefficients.

Table 4.5: Regression Coefficients

Predictor	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Usability	.383	.052	.408	7.302	<.001
Accessibility	.219	.064	.221	3.421	<.001
Content Quality	.296	.062	.289	4.734	<.001

a. Dependent Variable: User Satisfaction

These results provide robust empirical support for the research model and reinforce the importance of prioritizing usability, accessibility, and especially content quality in the design and delivery of e-book services in academic libraries.

5. Conclusion

This research on the user satisfaction of e-books in academic libraries, and in this case Universiti Teknologi MARA (UiTM), Kota Bharu have produced interesting results on what really affect the usage of e-books. The research offered a thorough analysis of the factors contributing to user satisfaction through usability, accessibility, and the quality of contents by employing the Technology Acceptance Model (TAM), the Information Systems Success Model (ISSM) as well as the Expectation Confirmation Theory (ECT). The findings suggest that all the three independent variables, usability, accessibility, and content quality, are associated positively with user satisfaction although usability turned out to be the most considerable predictor. This underlines the design and good interface and accessibility of the system to make the experience of the user smooth and comfortable. Evidence above also shows that the effectiveness of the content such as the relevancy, accuracy, and academic worth of the e-book material presented to the user is very key in fulfilling the expectations of the user. Next, the importance of accessibility was lower by a small increment, implying that the accessibility aspect is crucial, but other elements, such as usability or the quality of content, should be regarded as more critical in ensuring great satisfaction of the users. It was discovered that the key variables had a strong positive correlation and together the model explained up to 75.6 percent of variance in user satisfaction. These results correlate with other studies and confirm the thought that user satisfaction under e-book services is interwoven with a group of matters which should be fine-tuned so that to attain the highest degree of interactivity and usability. Regression models used in the statistical analysis showed strong impact of usability on the user satisfaction, followed by content quality and accessibility. Based on such findings, it is proposed that academic libraries should prioritize the need to improve the usability of e-book platforms, the quality of digital content as well as the need to make such works accessible in the form of various devices. By dealing with these aspects, libraries will be able to increase the level of adoption and satisfaction of e-book users and as a result increase the usefulness of digital resources in academic learning context. Further investigations can be made further on how this relationships interchange in other academic environments and determine the long-term impact of user satisfaction on the sustained use of e-books in academic libraries.

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References

- Abu Qaadon, A., Hamad, F., & Fakhouri, H. (2024). Facilitating digital accessibility for students with disabilities into information services at Jordanian academic libraries. *Library Management*. <https://doi.org/10.1108/LM-01-2024-0001>
- Ahmad, N., Astifar Alias, F., Hamat, M., Asmah Mohamed, S., & Sains Komputer, J. (2024). *RELIABILITY ANALYSIS: APPLICATION OF CRONBACH'S ALPHA IN RESEARCH INSTRUMENTS*.

<https://appspenang.uitm.edu.my/sigcs/>

- Amrina, A., & Rahmi, S. N. (2024). Utilizing the E-Book System in Supporting Students' Literacy and Independent Learning. *Sciencetchno: Journal of Science and Technology*, 3(2), 233–254. <https://doi.org/10.70177/sciencetchno.v3i2.1356>
- B. Sadueste, A., & Masalinto, Ma. L. (2023). Accessibility, Usability and Satisfaction of Library Users in the Hybrid Resources and Services of Academic Libraries in the Province of Albay. *International Journal of Innovative Science and Research Technology (IJISRT)*, 1153–1160. <https://doi.org/10.38124/ijisrt/ijisrt23may934>
- Blummer, B., & Kenton, J. M. (2020). A Systematic Review of E-Books in Academic Libraries: Access, Advantages, and Usage. *New Review of Academic Librarianship*, 26(1), 79–109. <https://doi.org/10.1080/13614533.2018.1524390>
- Chowdhury, G. (2013). Sustainability of digital information services. *Journal of Documentation*, 69(5), 602–622. <https://doi.org/10.1108/JD-08-2012-0104>
- Jin, C. H. (2014). Adoption of e-book among college students: The perspective of an integrated TAM. *Computers in Human Behavior*, 41, 471–477. <https://doi.org/10.1016/j.chb.2014.09.056>
- Kassiani Nikolopoulou. (2022, August 11). *What Is Purposive Sampling? | Definition & Examples*.
- Khan, G., Khan, K., & Karak, K. U. (2021). *Evaluating Users' Satisfaction on Academic Library Services and Facilities in Khyber Pakhtunkhwa-Pakistan*. <https://digitalcommons.unl.edu/libphilprac>
- Mune, C., & Agee, A. (2016). Are e-books for everyone? An evaluation of academic e-book platforms' accessibility features. *Journal of Electronic Resources Librarianship*, 28(3), 172–182. <https://doi.org/10.1080/1941126X.2016.1200927>
- Mustafa, M. H., Ahmad, M. B., Shaari, Z. H., & Jannat, T. (2021). Integration of TAM, TPB, and TSR in understanding library user behavioral utilization intention of physical vs. E-book format. *Journal of Academic Librarianship*, 47(5). <https://doi.org/10.1016/j.acalib.2021.102399>
- Nam, Y.-J., & Choi, S.-E. (2011). A Study on User Satisfaction with e-Book Services in University Libraries. *Journal of the Korean Society of Library and Information Science*. <https://doi.org/10.4275/KSLIS.2010.45.1.287>
- Pallant, Julie. (2020). *SPSS SURVIVAL MANUAL: A STEP-BY-STEP GUIDE TO DATA ANALYSIS USING IBM SPSS*. ALLEN & UNWIN.
- Razilan Abdul Kadir, M., Ab Ghani, R., Abu Bakar, A., Azli Bunawan, A., Ridwan Seman, M., Fazli Baharuddin, M., & Kadir, A. (2016). User Satisfaction with Electronic Resources. *Journal of E-Learning and Higher Education*, 2016. <https://doi.org/10.5171/2016.408838>
- Richardson, J. V., & Mahmood, K. (2012). eBook readers: User satisfaction and usability issues. *Library Hi Tech*, 30(1), 170–185. <https://doi.org/10.1108/07378831211213283>
- Rojeski, M. (2012). User perceptions of ebooks versus print books for class reserves in an academic library. *Reference Services Review*, 40(2). <https://doi.org/10.1108/00907321211228291>
- Sritharan, T. (2018a). Evaluation of Usage and User Satisfaction on Electronic Information Resources and

- Services: A Study at Postgraduate. *Journal of the University Librarians Association of Sri Lanka*, 21(2).
- Sritharan, T. (2018b). Evaluation of Usage and User Satisfaction on Electronic Information Resources and Services: A Study at Postgraduate Institute of Medicine Library, University of Colombo. *Journal of the University Librarians Association of Sri Lanka*, 21(2), 73–88. <https://doi.org/10.4038/jula.v21i2.7918>
- Tovstiadi, E., Tingle, N., & Wiersma, G. (2018). Academic E-book usability from the student's perspective. *Evidence Based Library and Information Practice*, 13(4), 70–87. <https://doi.org/10.18438/eblip29457>
- Voravickositt, P. (2017). *Understanding the relationship between users' reading attitudes and behaviours, and e-book collection management in Thai academic libraries*.
- Wooyong Yi, & Eunil Park. (2013). *E-Book Readability, Comprehensibility and Satisfaction*. ACM Digital Library. <https://dl-acm-org.uitm.idm.oclc.org/doi/pdf/10.1145/1968613.1968660>