

The Influence of User Experience (UX) on Digital Information Services in Libraries Universitas Negeri Padang

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Abstract.

This study was motivated by the rapid development of information technology, which has encouraged libraries to provide digital information services that are fast, easily accessible, and capable of meeting users' information needs. The success of digital information services is determined not only by the availability of technology and the completeness of information but also by users' experiences (User Experience [UX]) when interacting with the system. Therefore, this study aims to examine the effect of User Experience (UX) on digital information services at the Library of Universitas Negeri Padang. This study employed a quantitative method using descriptive and verification approaches. The study population consisted of all users of the digital information services at the Library of Universitas Negeri Padang, totaling 5,824 users. The sample was determined using the Slovin formula with a 10% margin of error, resulting in 98 respondents. Data were collected through a questionnaire using a five-point Likert scale. The data were analyzed using descriptive statistics and simple linear regression with the assistance of SPSS software. The User Experience (UX) variable was measured using five indicators: ease of use, ease of access, interface clarity, information quality, and user comfort. Meanwhile, digital information services were measured through service reliability, access speed, information accuracy and completeness, ease of obtaining information, and user satisfaction. The findings indicate that User Experience (UX) has a positive and significant effect on digital information services at the Library of Universitas Negeri Padang. The better the users' experience, the higher the perceived quality of digital information services. These findings suggest that ease of use, accessibility, interface clarity, information quality, and user comfort should become primary considerations in the development of library digital information services. This study is expected to serve as an evaluation reference for library managers in improving digital-based services that are more effective, efficient, and user-oriented.

Keywords: *User Experience (UX); Digital Information Services; Library of Universitas Negeri Padang; Human-Computer Interaction (HCI) and Digital Information Service Quality.*

I. INTRODUCTION

The rapid development of information and communication technology in the digital era has brought significant changes to various aspects of human life, particularly in the management and provision of information services. Digitalization has shifted information searching and utilization from traditional methods to digital information systems. Today, users expect information services that are fast, easily accessible, flexible, and capable of efficiently meeting their information needs. This situation requires various information service institutions to continuously adapt and innovate in delivering information services (Chemulwo & Sirorei, 2021).

As educational institutions and centers of knowledge, universities have an important responsibility to provide information services for the academic community. One of the units that plays a significant role in supporting academic activities is the university library. Nowadays, university libraries no longer function merely as repositories for printed books but have evolved into digital information service centers that provide a variety of electronic information resources, including the Online Public Access Catalog (OPAC), electronic journals (e-journals), electronic books (e-books), institutional repositories, and various scientific databases. This transformation responds to users' increasing dependence on technology to access academic information quickly and extensively (Santosa, Sukirman, & Subaidi, 2022).

The quality of digital information services is determined not only by the completeness of collections and the sophistication of the technology employed but also by the ability of these services to meet users' needs and expectations. More recent studies, such as the hierarchical e-service quality model proposed by

Markus Blut (2021), explain that the quality of digital services is shaped by users' perceptions of efficiency, service fulfillment, system availability, and privacy protection (Wang et al., 2024).

The development of digital information services in Indonesian university libraries has continued to increase alongside the widespread adoption of information technology in higher education. Library digitalization aims to improve service quality and enhance access to information for students, lecturers, and researchers. Digital information services are expected to make information retrieval more effective and efficient, eliminate time and geographical barriers, and support the achievement of higher education objectives. Therefore, the quality of digital information services has become one of the key indicators for evaluating the performance of university libraries (Wahyuni & Ummah, 2025).

The Library of Universitas Negeri Padang, as one of Indonesia's public university libraries, has developed various digital information services to support the academic activities of its academic community. These services include an online catalog, access to electronic journals and books, an institutional repository, and other supporting systems. Through these digital information services, the library is expected to improve service quality and enable users to obtain the information they need more easily.

However, the success of digital information services is not solely determined by technical aspects and system availability but is also strongly influenced by users' experiences. User Experience (UX) refers to users' perceptions, responses, and overall interactions while using a digital system or service. From the perspective of Human–Computer Interaction (HCI), UX is understood as the outcome of interactions between humans and computer systems designed to be effective, efficient, and satisfying for users.

Within the context of Library and Information Science, research on user experience is particularly important because it is directly related to the management of user-centered information services. Understanding User Experience from an HCI perspective provides a fundamental basis for improving the quality of digital information services in libraries.

Previous studies have examined digital information services in libraries. However, most of these studies have focused primarily on service quality, user satisfaction, and the effectiveness of information systems. In earlier research, User Experience has often been treated merely as a supporting variable or evaluated only from the perspective of usability. Moreover, many studies have employed the Technology Acceptance Model (TAM), which emphasizes perceived usefulness and perceived ease of use without comprehensively examining user experience from the perspective of Human–Computer Interaction.

Unlike previous studies, the present research explicitly positions User Experience (UX) as the primary independent variable influencing digital information services. This study investigates UX comprehensively based on the principles of Human–Computer Interaction (HCI), including ease of use, interface clarity, interaction efficiency, accessibility, and user comfort. Furthermore, this research focuses on the Library of Universitas Negeri Padang as its research setting, aiming to provide empirical evidence that is relevant to the characteristics of users and digital information services within a public university environment.

Based on the foregoing discussion, a research gap remains, namely the limited number of studies specifically investigating the influence of User Experience (UX), grounded in the Human–Computer Interaction perspective, on digital information services in university libraries, particularly at the Library of Universitas Negeri Padang. Therefore, this study aims to examine the effect of User Experience (UX) on Digital Information Services at the Library of Universitas Negeri Padang. The findings are expected to provide valuable insights for library managers in evaluating and improving digital information services, while also contributing to the advancement of research in the field of Library and Information Science.

II. METHODS

This study employed a quantitative research design using descriptive and verification approaches because the data collected consisted of numerical values analyzed through statistical techniques. The descriptive approach was used to describe the condition of User Experience (UX) and the quality of digital information services at the Library of Universitas Negeri Padang based on users' perceptions. Meanwhile, the verification approach was employed to examine the effect of User Experience (UX) on the quality of digital

information services. A quantitative approach was selected because the research data were obtained from questionnaire responses and analyzed statistically to test the proposed research hypothesis.

The population of this study consisted of all users of the digital information services at the Library of Universitas Negeri Padang, specifically active student visitors in 2025, totaling 5,824 individuals. The sample size was determined using the Slovin formula, resulting in 98 respondents who were included in the data analysis.

Data were collected using a structured questionnaire developed based on the indicators of User Experience (UX) and digital information service quality. User Experience (UX) was measured using five indicators: ease of use, ease of access, interface clarity, information quality, and user comfort. Meanwhile, digital information service quality was measured through service reliability, access speed, information accuracy and completeness, ease of obtaining information, and user satisfaction. The questionnaire employed a four-point Likert scale consisting of Strongly Agree, Agree, Disagree, and Strongly Disagree.

Prior to data analysis, the research instrument was tested for validity and reliability. Validity testing was conducted to determine the extent to which the instrument accurately measured the intended constructs, while reliability testing was performed to assess the consistency of the instrument. The instrument was considered reliable when the Cronbach's Alpha value met the established criteria.

Data analysis was performed using SPSS software. The analytical techniques included data tabulation, descriptive analysis, normality testing, linearity testing, heteroscedasticity testing, simple linear regression analysis (Model Summary, F-test, and t-test), and the coefficient of determination (R^2). Simple linear regression analysis was conducted to examine the effect of User Experience (UX) on the quality of digital information services at the Library of Universitas Negeri Padang. Data collection was conducted after the proposal seminar held on January 30, 2026, and took place from March 2, 2026, to May 18, 2026.

III. RESULTS

This section presents the research findings systematically based on data collected from active student visitors to the Library of Universitas Negeri Padang in 2025. The findings were obtained through questionnaires distributed to respondents selected as the research sample. The study population consisted of all active student visitors in 2025, and the sample size was determined using the Slovin formula, resulting in 98 respondents. The collected data were subsequently analyzed to examine the effect of User Experience (UX) on the quality of digital information services at the Library of Universitas Negeri Padang.

1. Distribution of Respondents' Responses on the User Experience (UX) Variable

Table 9. Distribution of Respondents' Responses on the User Experience (UX) Variable

Indikator	No Pertanyaan	Skor Jawaban				Jumlah
		SS	S	KS	TS	
Kemudahan Penggunaan	1	39	52	5	2	98
	2	28	58	8	4	98
	3	40	47	7	4	98
Kemudahan Akses	4	42	46	8	2	98
	5	32	59	3	4	98
	6	37	46	12	3	98
Kejelasan Tampilan	7	25	65	6	2	98
	8	25	64	6	3	98
	9	42	48	5	3	98
Kualitas informasi	10	36	53	6	3	98
	11	36	52	8	2	98
	12	38	51	6	3	98
Keandalan layanan	13	30	57	8	3	98
	14	33	53	8	4	98
	15	35	52	9	2	98

Based on Table 9, The User Experience (UX) variable was measured using five indicators: ease of use, ease of access, ease of understanding, information quality, and service quality. Based on the responses of

98 participants, the majority selected Agree (A) and Strongly Agree (SA) across all measured indicators. Most respondents stated that the digital information services provided by the Library of Universitas Negeri Padang were easy to use, easily accessible, and featured a clear interface, making it easier for users to find the information they needed.

Furthermore, most respondents provided positive responses regarding the information quality and service quality indicators. These findings indicate that the information available through the digital information services is accurate, relevant, and capable of meeting users' information needs. In addition, the digital information services effectively support information retrieval and utilization. Overall, the predominance of Agree and Strongly Agree responses indicates that the User Experience (UX) of the digital information services provided by the Library of Universitas Negeri Padang can be categorized as good, suggesting that users generally had positive experiences when using these services.

2. Distribution of Respondents' Responses on the Digital Information Service Quality Variable

Table 26. Distribution of Respondents' Responses on the Digital Information Service Quality Variable

Indikator	No Pertanyaan	Skor Jawaban				Jumlah
		SS	S	KS	TS	
Keandalan layanan	16	23	57	13	5	98
	17	38	47	9	4	98
	18	32	50	12	4	98
Kecepatan akses	19	39	48	7	4	98
	20	27	55	14	2	98
	21	37	45	13	3	98
Ketepatan & kelengkapan informasi	22	26	59	7	6	98
	23	41	37	18	2	98
	24	31	59	4	4	98
Kemudahan memperoleh informasi	25	40	54	2	2	98
	26	23	63	7	5	98
	27	37	50	9	2	98
Kepuasan pengguna	28	35	54	4	5	98
	29	27	61	8	2	98

Based on Table 26, the Digital Information Service Quality variable was measured using five indicators: service quality, accessibility, information accuracy and completeness, ease of obtaining information, and user satisfaction. Based on the responses of 98 participants, the majority selected Agree (A) and Strongly Agree (SA) for each statement. Most respondents indicated that the digital information services provided by the Library of Universitas Negeri Padang offered fast and convenient access to information and delivered information that met users' needs. The predominance of Agree responses across most statements reflects respondents' positive perceptions of the quality of the available digital information services.

Furthermore, most respondents gave positive responses to the indicators of ease of obtaining information and user satisfaction. These findings indicate that users were able to obtain the information they needed easily through the available digital services, which effectively supported their academic information needs. Overall, the predominance of Agree and Strongly Agree responses indicates that the digital information services at the Library of Universitas Negeri Padang are categorized as good, meaning that the services effectively and efficiently meet users' information needs.

3. Normality Test

Table 42. Results of the Normality Test

Variabel	N	prov-Smirnov Statistic	Sig.	Keterangan
User Experience (UX)	98	0,176	0,000	Tidak Normal
Kualitas Layanan Informasi Digital	98	0,218	0,000	Tidak Normal

The normality test results indicate that the significance values for the *User Experience* (UX) variable and the digital information service quality variable were both **0.000**. Since both significance values are less than **0.05** ($0.000 < 0.05$), it can be concluded that the data for both variables were not normally distributed.

4. Linearity Test

Table 43. Results of the Linearity Test

Komponen	F Hitung	Sig.	Keterangan
<i>Linearity</i>	542,229	0,000	Linear
<i>Deviation from Linearity</i>	1,227	0,253	at penyimpangan linearitas

Table 43 The linearity test results show that the significance value for Linearity was 0.000, while the significance value for Deviation from Linearity was 0.253. Since the significance value for Linearity was less than 0.05 and the significance value for Deviation from Linearity was greater than 0.05, it can be concluded that the relationship between *User Experience* (UX) and digital information service quality is linear. Therefore, the assumption of linearity was satisfied.

5. Simple Linear Regression Analysis

Table 47. Results of the Simple Linear Regression Analysis

Variabel	B	t Hitung	Sig.
Konstanta	0,553	0,284	0,777
<i>User Experience</i>	0,906	22,702	0,000

Table 47 the regression analysis produced a constant value of 0.553 and a regression coefficient of 0.906, resulting in the following regression equation:

$$Y = 0.553 + 0.906X$$

The regression coefficient indicates that every one-unit increase in *User Experience* (UX) is associated with an increase of 0.906 units in the quality of digital information services. Furthermore, the calculated t-value was 22.702, with a significance value of 0.000. Since the significance value was less than 0.05, *User Experience* (UX) was found to have a positive and statistically significant effect on the quality of digital information services.

6. Coefficient of Determination (R²)

Table 49. Coefficient of Determination (R²)

R Square	Persentase Pengaruh	Persentase Faktor Lain
0,843	84,3%	15,7%

Based on table 49 the analysis results, the R Square value was 0.843. This indicates that *User Experience* (UX) accounts for 84.3% of the variation in the quality of digital information services at the Library of Universitas Negeri Padang, while the remaining 15.7% is influenced by other factors that were not examined in this study.

7. Hypothesis Test

Table 48. Hypothesis Testing

Hipotesis	Sig.	α	Keputusan
H ₀ : Tidak terdapat pengaruh UX terhadap kualitas layanan informasi digital	0,000	0,05	Ditolak
H ₁ : Terdapat pengaruh UX terhadap kualitas layanan informasi digital	0,000	0,05	Diterima

Based on table 48 the results of the t-test, the significance value was 0.000, which is less than 0.05. Therefore, H₁ was accepted and H₀ was rejected. It can be concluded that *User Experience* (UX) has a significant effect on the quality of digital information services at the Library of Universitas Negeri Padang.

IV. DISCUSSION

The findings of this study indicate that User Experience (UX) has a positive and significant effect on the quality of digital information services at the Library of Universitas Negeri Padang. This is supported by the results of the simple linear regression analysis, which produced a significance value of 0.000 ($p < 0.05$) and a regression coefficient of 0.906. The resulting regression equation, $Y = 0.553 + 0.906X$, indicates that every one-unit increase in User Experience (UX) increases the quality of digital information services by 0.906 units. Furthermore, the coefficient of determination (R^2) of 0.843 indicates that 84.3% of the variation in digital information service quality is explained by User Experience (UX), while the remaining 15.7% is influenced by other variables outside the scope of this study.

These findings demonstrate that user experience plays an important role in shaping users' perceptions of digital information service quality. A positive user experience is reflected in the ease of system use, ease of access, interface clarity, information quality, and user comfort while interacting with the library's digital services. Most respondents perceived that the digital information services provided by the Library of Universitas Negeri Padang were easy to use for searching and obtaining the information they needed, thereby effectively supporting their academic information needs. These results suggest that the better the user experience, the higher the perceived quality of digital information services.

The findings are consistent with the Human–Computer Interaction (HCI) theory, which emphasizes that the success of an information system depends not only on its technical capabilities but also on the quality of interaction between users and the system. A positive user experience enhances users' perceptions of service quality because the system provides ease of use, accessibility, interface clarity, high-quality information, and user comfort during information retrieval. Conversely, when users experience difficulties in interacting with the system, their perception of digital information service quality tends to decline.

The results of this study are also consistent with previous studies by Putri and Rahman (2020), who reported that the aspects of usability, efficiency, and satisfaction significantly influence the quality of digital library services. Likewise, Hidayat and Nugroho (2023) found that User Experience (UX) has a significant influence on the utilization of digital services. These consistent findings reinforce the importance of User Experience (UX) as a key factor in developing high-quality digital information services. Therefore, the Library of Universitas Negeri Padang should continue improving User Experience (UX) by enhancing the user interface, increasing system access speed, improving information search features, and providing more comprehensive and relevant information to further improve the quality of digital information services.

V. CONCLUSION

Based on the findings of this study, it can be concluded that User Experience (UX) has a positive effect on the quality of digital information services at the Library of Universitas Negeri Padang. The better the user experience while interacting with digital information services, the higher the perceived quality of the services received by users.

The dimensions of User Experience (UX), including ease of use, ease of access, interface clarity, information quality, and user comfort, were found to contribute to improving the quality of digital information services. Users tend to be more satisfied when the system is easy to understand, provides clear navigation, and delivers the required information quickly and accurately.

The findings also indicate that the digital information services at the Library of Universitas Negeri Padang have provided a generally positive user experience. Nevertheless, several aspects still require further improvement to optimize service quality and ensure that users' information needs continue to be met effectively and sustainably.

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