



The Effect of Library Website Quality on User Satisfaction Level in the Library of the University of Muhammadiyah Surakarta

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ABSTRACT

Purpose Research: This study aims to determine the influence of library website quality on the level of user satisfaction at the University of Muhammadiyah Library of Surakarta and uses the theory of Webqual 4.0 and End-User Computing Satisfaction (EUCS). **Research Method:** This study uses a quantitative method, and the research population is UMS students who have used the library website, with a sample of 268 respondents. The data collection technique uses a questionnaire disseminated online through social media and by visiting students in person. **Analysis Data:** Analysis data is processed by calculating mean and percentage and then matching the result with data interval. After that, data was counted with the normality test, correlation coefficient test, and hypothesis test. **Result:** The results showed that the usability indicator in the website quality variable obtained the highest average score of 3.18, and the service interaction quality indicator had the lowest average value with a value of 3.16. The ease of use indicator in the user satisfaction variable has the highest average value of 3.19. In contrast, the timeliness indicator has the lowest average value, with a value of 3.13. **Conclusions:** Based on the results of data analysis, it is known that the quality of the library website affects the level of user satisfaction at the University of Muhammadiyah Library Surakarta based on the results of the correlation coefficient test value of 0.971, which indicates a solid positive relationship.

Keywords: *website quality; user satisfaction; Webqual 4.0; End-User Computing Satisfaction; EUCS)*

A. INTRODUCTION

As a container of information sources that collects, gathers, manages, and disseminates information, the library requires an information system that can facilitate the library's performance and expand the information to be conveyed. Some of these are websites, and digital libraries are expected to reach users with a broader scope. Nowadays, library users can access information in the library anytime and anywhere with the existence of digital formats (Perdana et al., 2020). One of the steps the library takes to disseminate information to users is also to promote the library more widely, namely by using the website. A website is a



medium that contains various information that users can find through search engines. Depending on needs, websites can contain images, illustrations, videos, and text. Websites are easily accessible from anywhere and can also provide information online. At this time, it is widely used in organizations and agencies to increase the effectiveness of operational activities (Martínez-Caro et al., 2020). In libraries, usually, websites contain various services that exist and are available in libraries as well as a set of information related to libraries or others, such as library profiles, journal portal information subscribed to by the library, OPAC, repositories, digital services provided by libraries, collection search guides, and so on (Prianto, 2019). Many libraries have developed websites to make it easier for users who want to take advantage of library services and find the sources of information needed to serve users with a wider scope. One of the libraries that developed a website is the library of the University of Muhammadiyah Surakarta (UMS).

The UMS Library has a website with various information and library services. From pre-research interviews conducted with librarians, in addition to finding information related to the library, the library website is helpful for users to search for library collections or research journals subscribed to by the library. The menu contained in this website includes library profiles, various services provided, library locations and plans, several guidance modules related to services, access to journal portals, memberships, and various latest information and activities carried out by the library. Based on initial observations and interviews, it was found that UMS Library librarians received several complaints from users who stated that they could not find the information they needed on the library website when, in fact, the information was already there. In addition, the library website's appearance is unattractive, and the layout and content arrangement still need to be clarified for users. In addition to complaints, many users feel helped by the information on the library website, such as guidelines for self-uploading publication manuscripts, membership guidelines, and seminar information. The library itself has yet to take further action regarding the website. According to Kous et al. (2020), the characteristic of a quality library website is that it can provide information to users and be accessed quickly to provide effective services and support users' good perception of the library. Meanwhile, a quality website has content and an attractive appearance, and attention must be paid to the appropriate placement of content (Wulandari et al., 2021).

End-User Computing Satisfaction (EUCS) is a method used to evaluate the level of user satisfaction towards a website (Alifiarga, 2019). Moreover, EUCS is an evaluation strategy on end users from a website with compared reality and expectation from data that had been accessed (Anggraini, 2021). Despite its origins dating back to 1988, this theory continues to be utilised in the examination of reliability in information systems, with its applications having been translated into numerous languages (I. Kurniawan, 2020).

The theory was developed by Doll and Torkzadeh (1988) and has five aspects: content, accuracy, format, ease of use, and timeliness. Content, as indicated by Alifiarga (2019), is a measure of user satisfaction derived from website content. Accuracy, as defined by Doll and Torkzadeh (1988), is a measure of end-user



satisfaction derived from data accuracy. The third aspect, format, as outlined by the same authors, is a measure of user satisfaction derived from the appearance and design of the website interface. Ease of use, as proposed by Doll and Torkzadeh (1988), is a measure of the level of ease and comfort experienced by the user when interacting with the system. Finally, timeliness, as stated by Doll and Torkzadeh (1988), is a measure of the time required by the system to provide or display information to the user.

Research on website quality and user satisfaction with a similar topic or scope to this research can be seen from several previous studies; the first study was conducted by Husain and Budiyantara in 2018. Husain and Budiyantara's (2018) research identified and measured how each method contributed to user satisfaction with the STIMIK website. The research analysis uses structural equation modelling (SEM) to test the influence of several X variables on the Y variable using multiple regression techniques with the confirmatory factor analysis (CFA) model. The similarity of this study with the third research is to determine the effect of the level of website quality on user satisfaction. The difference in the research lies in the research object and the analysis method used. In this study, SEM and CFA analysis methods are used. The second research was conducted by Ashari et al. (2020), the research aims to find out the quality of the website that UMM has served and get information about several aspects that must be improved to improve the website's quality. The results of this study generally show that all the research variables have a positive value (the overall WebQual 4.0 variable average is $0.74 > 0$), which means that the performance of the UMM digital library website has been in accordance with user expectations. However, according to the calculations of the science quadrant, several aspects still need to be improved to improve the quality of website services. The similarity of this study with the fourth study is to measure the level of website quality. The difference lies in the measurement method and the object of research used. This study uses WebQual 4.0 and IPA measurement methods. Knowing the existing information and data, the author chose the UMS Library website as the research object in this study to determine the influence of library website quality on user satisfaction. Based on various kinds of perceptions arising from users, especially regarding perceptions related to the problem of suboptimal websites, and also has never been conducted research on the quality of the UMS Library website, the author is interested in researching the influence of Library Website Quality on the Satisfaction Level of UMS Library Users.

The problem in this study taken by the author is the influence of the quality of the library website on the level of user satisfaction in the Library of the University of Muhammadiyah Surakarta. So, The hypotheses of this study are as stated below: H₀ (The library website quality does not affect user satisfaction) and H_a (The library website quality affects user satisfaction). Furthermore, the objective of this study is to ascertain the effect of library website quality on user satisfaction in the library of the University of Muhammadiyah Surakarta.



B. METHODS

The quantitative research method is used in this study. Quantitative methods are used to research a specific population or sample by collecting data and research instruments. The data analysis model is quantitative or statistical and aims to test a predetermined hypothesis (Ghanad, 2023). A quantitative research method was used in this study to determine the influence of library website quality on the level of user satisfaction in the University of Muhammadiyah Surakarta Library using WebQual 4.0 theory and EUCS, which were assessed through existing indicators. This study has two variables, namely website quality as an independent variable tested using indicators in the WebQual 4.0 variable and the dependent variable, user satisfaction, tested using indicators from the End-User Computing Satisfaction (EUCS) variable measured using the Likert scale.

WebQual 4.0 is used to measure the quality of a website based on users (Rerung et al., 2020). Webqual was developed from its beginning in 1998 as WebQual 1.0, initially developed as a prefix until it underwent a change in question preparation in each dimension to the current WebQual 4.0 (Lestari, Ilhamsyah, & Rusi, 2022). The measurement of website quality can be done using WebQual 4.0. It can be used as input and reference to improve the website according to the user's perception of the three indicators: usability, information quality, and service interaction quality. Meanwhile, EUCS is a theory used to evaluate the overall user acceptance of information systems (Hidayah et al., 2020). This theory was developed by Doll and Torkzadeh (1988) and has five aspects: content, accuracy, format, ease of use, and timeliness. The hypotheses in this study are as follows: H₀: The quality of the library website does not affect the level of user satisfaction at the University of Muhammadiyah Library Surakarta. H_a: The quality of the library website influences the level of user satisfaction at the University of Muhammadiyah Library Surakarta.

The population in this study is all University of Muhammadiyah Surakarta students who have used the library website, and there are 32,455 library members. The research sample was determined by simple random sampling, included in probability sampling. It means that all population members are given the same opportunity to be part of the sample taken. The basis for using this sample is to reduce the potential for bias in the population to be sampled (Lakens, 2022). The research sample was calculated using the Isaac & Michael formula with an error rate of 10%, resulting in a sample of 268 people. The data collection method in this study uses a closed questionnaire instrument, so respondents can directly choose the appropriate answer from several answer options that the researcher has made.

Validity is calculated using the product moment correlation formula, which relates the score of each item to the total score. The total score results from the sum of the scores of the items in the instrument (Kalkbrenner, 2021). If it is known that the calculated r-value is ≥ 0.05 , it is declared valid; on the other hand, if the calculated r-value is less than 0.05, it is declared invalid. This validity test uses the Pearson product-moment method to test the assumption that there is a relationship between variables that has data in the form of intervals or ratios



(Obilor & Amadi, 2018), where if the test results are known to be r calculated greater than r table, then the instrument used is valid if r table is more significant than r calculated, then the instrument used is invalid. This validity test uses SPSS 27 software. A reliability test measures the accuracy of questionnaires as a data collection tool (Singh, 2017). The Cronbach Alpha formula is used to calculate the level of realism of a research instrument by measuring how well the relationship between items in the instrument is (Heo, Kim, & Faith, 2015).

C. RESULT AND DISCUSSION

Based on the data collected during the research process regarding the influence of the quality of the library website on the level of user satisfaction at the University of Muhammadiyah Library in Surakarta, the data of the research results were obtained. The data presented was obtained by filling out a questionnaire through a Google Form and sharing it with the research respondents. The research questionnaire, which contained 31 questions, contained two research variables: website quality and user satisfaction. The number of research respondents and the calculation of the number of samples were determined using the Isaac and Michael formula, and the calculation of the number of samples showed that as many as 268 respondents were needed in this study.

I. Website Quality Variables

The study explains the quality variables of this website through three indicators: usability, information quality, and service interaction quality, which will be explained below. The discussion section, which contains the scientific argumentation of the research results, deals with the author's narration that is critically directed at the study's data.

a) Usability

Table 1. Indicators of Usability

Indicator	Sub Indicator	Statements	Mean	Category
Usability	The site is easy to learn to operate	1	3.21	Good
	Interaction with the site is clear and understandable	2	3.17	Good
	The site is easy to navigate	3	3.20	Good
	The site is easy to use	4	3.20	Good
	The site has an attractive appearance	5	3.16	Good
	The design is appropriate to the type of site	6	3.21	Good
	The site conveys a sense of competency	7	3.13	Good
	The site creates a positive experience for me	8	3.22	Good
Total			25.5	
Average			3.18	



The results in Table 1 obtained a total value of 25.5 and an average of 3.18. The results of the analysis of the usability indicator are at level 3 with an interval of 2.52 – 3.27. Based on this value, it can be concluded that the quality of the website on the usability indicator is included in the good category. In the usability indicator, most users responded to a questionnaire that showed they agreed that the website had good usability quality. One of the eight sub-indicators with the highest average value compared to the other sub-indicators is "The site creates a positive experience for me," contained in statement number 8, and obtains a score of 3.22. The statement on number 8 mentions that "This website can provide a good experience for me." It shows that the website has provided a positive experience for users, which can be seen from its ease of use. The appearance of the website by users is considered attractive and clearly understood. As well as the available information can increase user knowledge and competence.

b) Information Quality

Table 1. Indicators of Information Quality

Indicator	Sub Indicator	Statements	Mean	Category
Information Quality	Provides accurate information	9	3.19	Good
	Provides believable information	10	3.20	Good
	Provides timely information	11	3.14	Good
	Provides relevant information	12	3.16	Good
	Provides easy to understand information	13	3.20	Good
	Provides information at the right level of detail	14	3.16	Good
	Presents the information in an appropriate format	15	3.20	Good
	Total			22.25
Average			3.17	

The results in Table 2 obtained a total value of 22.25 and an average of 3.17. The analysis results of information quality indicators are at level 3 with an interval of 2.52 – 3.27. Based on this value, it can be concluded that the quality of the website in the information quality indicator is in a good category. The information quality indicator shows student responses to the questionnaire, which shows that most students agree that the website has good information quality. The following are three sub-indicators of the seven sub-indicators that have the highest average value compared to other sub-indicators with the same value, namely "provides believable information", "provides easy-to-understand information", and "presents the information in an appropriate format," contained in statements number 10, 13, and 15 which obtained an average score of 3.20. Statement number 10 states that



"The Website provides reliable information," statement number 13 states that "Website provides information that is easy to understand," and statement number 15 states that "Website provides information in an appropriate format."

c) Service Interaction Quality

Table 2. Indicators of Service Interaction Quality

Indicator	Sub Indicator	Statements	Mean	Category
Service Interaction Quality	Has a good reputation	16	3.19	Good
	It feels save to complete transaction	17	3.16	Good
	My personal information feels secure	18	3.13	Good
	Creates a sense of personalization	19	3.20	Good
	Convey a sense of community	20	3.17	Good
	Make it easy to communicate with the organization	21	3.15	Good
	I feel confident that goods/service will be devilered as promised	22	3.13	Good
	Total			22.13
Average			3.16	

The results in Table 3 obtained a total value of 22.13 and an average of 3.16, so it can be known that the results of the analysis of the service interaction quality indicator are at level 3 with an interval of 2.52 – 3.27. Based on this value, it can be concluded that the quality of the website in the service interaction quality indicator is in a good category. The service interaction quality indicator shows student responses to the questionnaire, which shows that most students agree that the website has a good quality of service interaction. One of the seven sub-indicators with the highest average value compared to the other sub-indicators is "Creates a sense of personalization," which is found in statement number 19, and an average score of 3.20 was obtained. The statement on number 19 states that "Websites provide privacy to their users."

II. User Satisfaction Variables

The study's user satisfaction variables are explained using five indicators, including Content, Accuracy, Format, Ease of use, and Timeliness, which will be explained below.



a) *Content*

Table 3. Indicators of *Content*

Indicator	Sub Indicator	Statements	Mean	Category
Content	Relevance	23	3.19	Good
	Diversity	13	3.20	Good
	Benefit	7	3.13	Good
	Quality	24	3.15	Good
	Transparency	8	3.22	Good
Total			15.89	
Average			3.17	

Table 4 shows a total value of 15.89 and an average of 3.17, so it can be seen that the results of the analysis of the content indicator are at level 3 with an interval of 2.52 – 3.27. Based on this value, it can be concluded that user satisfaction with the content indicator is in a good category. The sub-indicator with the highest average score is found in the transparency sub-indicator contained in statement number 8, and a score of 3.22 was obtained. The statement on number 8 mentions that "This website can provide a good experience for me."

b) *Accuracy*

Table 4. Indicators of *Accuracy*

Indicator	Sub Indicator	Statements	Mean	Category
Accuracy	Accuracy	9	3.19	Good
	Reliable	10	3.20	Good
	Input and output compatibility	9	3.19	Good
	Standardization	14	3.16	Good
Total			12.74	
Average			3.18	

The results in Table 5 obtained a total value of 12.74 and an average of 3.18, so it can be known that the results of the analysis of the accuracy indicator are at level 3 with an interval of 2.52 – 3.27. Based on these values, it can be concluded that user satisfaction in the accuracy indicator is in the excellent category. The subindicator with the highest average score is found in the "Reliably" subindicator in statement number 10 and obtained a value of 3.20. The statement in number 10 states, "The Website provides reliable information". The accuracy indicator measures the accuracy of information on websites intended for users, such as the accuracy of the information needed by users. Users feel that the information on the UMS Library website is trustworthy and easy to understand, so they are confident that the information on the UMS Library website is reliable. It means that the information contained on the library website is accurate and relevant.



c) Format

Table 5. Indicators of Format

Indicator	Sub Indicator	Statements	Mean	Category
Format	Interesting	5	3.16	Good
	Clear	25	3.15	Good
	Information Quality	26	3.21	Good
	Easiness	4	3.20	Good
Total			12.72	
Average			3.18	

The results in Table 6 obtained a total value of 12.72 and an average of 3.18, so it can be known that the analysis results of the format indicator are at level 3 with an interval of 2.52 – 3.27. Based on these values, it can be concluded that user satisfaction with the format indicator is in a good category. The sub-indicator with the highest average score is found in the sub-indicator "information quality" contained in statement number 26, and a score of 3.21 was obtained. The statement in number 26 states that "The website displays information well".

d) Ease of Use

Table 6. Indicators of Ease of Use

Indicator	Sub Indicator	Statements	Mean	Category
Ease of Use	Easy to use	4	3.20	Good
	Easy to understand	1	3.21	Good
	Easy to operate	4	3.20	Good
	System interactions	2	3.17	Good
	Service system	27	3.17	Good
Total			15.95	
Average			3.19	

Table 7 shows a total value of 15.95 and an average of 3.19, so it can be seen that the results of the analysis of the ease of use indicator are at level 3 with an interval of 2.52 – 3.27. Based on this value, it can be concluded that user satisfaction with the ease of use indicator is in a good category. The subindicator with the highest average score is found in the "easy to understand" subindicator in statement number 1, and a score of 3.21 was obtained. The statement in number 1 states, "I have no trouble learning how to use the website".



e) Timeliness

Table 7. Indicators of Timeliness

Indicator	Sub Indicator	Statements	Mean	Category
Timeliness	Timeliness	28	3.08	Good
	Informations availability	29	3.18	Good
	Service systems	30	3.11	Good
	Up to date	31	3.18	Good
Total			12.55	
Average			3.13	

The results in Table 8 obtained a total value of 12.55 and an average of 3.13, so it can be seen that the results of the analysis of the timeliness indicator are at level 3 with an interval of 2.52 – 3.27. Based on this value, it can be concluded that user satisfaction in the timeliness indicator is in the good category. The highest average value sub-indicator is found in the sub-indicators "information availability" and "up to date" contained in statements 29 and 31, and a score of 3.18 was obtained. The statement in number 29 states that "The website can provide the information I need," and the statement in number 31 states, "I am satisfied with the overall quality of the website."

III Correlation Coefficient Test

The tests carried out in this study were calculated using the Pearson Product-Moment correlation coefficient technique with the help of SPSS software. The results obtained will be interpreted according to the correlation coefficient test values specified in the following table:

Table 8. Interpretation of Correlation Coefficient Test Values

Coefficient Interval	Corelations Rate
0.00 – 0.199	Very Low
0.20 – 0.399	Low
0.40 – 0.599	Medium
0.60 – 0.799	Strong
0.80 – 1.000	Very Strong

(Sugiyono, 2013)

Table 9. Correlation Coefficient Test Results

		Correlations	
		Website Quality	User Satisfaction
Website Quality	Pearson Correlation	1	0.971**
	Sig. (2tailed)		< 0.001
	N	268	268



User Satisfaction	Pearson Correlation	0.971**	1
	Sig. (2tailed)	< 0.001	
	N	268	268

** Correlation is significant at the 0,01 level (2-tailed)

The data results in Table 10 show a correlation coefficient of 0.971. Based on Table 9, the value indicates a very strong positive relationship (moving to number 1), so that if the quality value of the library website (X) increases, then the value of the user satisfaction variable (Y) will also increase (directly proportional). In other words, the higher the website's quality score, the higher the level of user satisfaction. The increase in the UMS Library website's quality correlates with the increase in user satisfaction levels. Furthermore, vice versa, the decline in the quality of the UMS Library website will be accompanied by a decrease in the level of user satisfaction.

IV Hypothesis Test

In this study, hypothesis testing was carried out using the Pearson Product-Moment correlation coefficient value. The test results are evaluated based on the following criteria: If the significance value > 0.05, Ha is rejected, and H0 is accepted, indicating no significant influence. If the significance value < 0.05, then Ha accepted and H0 rejected, which means it has a significant influence. It is known from the table of the results of the correlation coefficient test in Table 10 that a significance value of < 0.001 was obtained, which is smaller than the significance level of 0.05. The results show that Ha was accepted, while H0 was rejected. It shows that the quality of the library website (X) influences user satisfaction (Y) at the University of Muhammadiyah Library of Surakarta.

DISCUSSION

The data analysis indicates that the UMS Library website has been given a positive experience for users, especially in terms of usability. The three general components of usability indicators related to the website's usability are as follows: the presence of users involved, the existence of users' needs for information on the website (i.e. the library), and the utilisation of the website by users (Manik et al., 2017).

The Information Quality indicator is related to the quality of the content contained on the website, whether or not the information is appropriate for the user's purpose, such as the accuracy of the information, the appropriate information format, and the relevance of the information to what the user needs (Manik et al., 2017). Users feel that the information on the UMS Library website is trustworthy and easy to understand, and the information contained on the website is also in the specified format, which is the standard used to process and store

information digitally. It is the statement that Information Quality is the superiority of what is contained in the website, including the suitability of the information conveyed to users, such as the accuracy of the information, the format that suits the needs, and the relevance of the information provided to users (Longstreet et al., 2021).

The Service Interaction Quality indicator is the quality of service interaction experienced by users when they use the website more deeply, manifested with trust and empathy, as examples of privacy and information security issues, personalization, and communication with the library (Manik et al., 2017). Privacy needs to be maintained in activities in the digital world to protect personal data from information misuse and minimize privacy violations (Choi et al., 2018). Users feel confident that the UMS Library website guarantees their privacy space when using the library website. This belief results from studying the website itself carried out by users so that a sense of trust and empathy arises (Longstreet et al., 2021).

Content indicators are used to see user satisfaction by considering the content of a system in the form of features that can be operated by users that can add to the user experience in using the website. This shows that the website has provided a positive experience for users, which can be seen from its ease of use. A good representation of experience includes how the library website can produce information that suits users' needs (Thong et al., 2002). The appearance of the website by users is considered attractive and clearly understood. As well as the available information can increase user knowledge and competence. It is in accordance with the three general components of usability indicators related to the website's usability, namely the presence of users involved, users need information on the website (library), and users do something with the existence of a website (Manik et al., 2017).

Format indicators measure user satisfaction from the aesthetic aspect of the website interface, and ease of understanding and using the website can increase user satisfaction. The format of the library website plays a vital role for users because it is related to what users see on the website display when used (Kato et al., 2021). The information on the website follows the specified format, which is the standard used to process and store information digitally. Users feel that the UMS Library website interface can help users find the information they need quickly; the appearance of the website makes it easier for users to use the website, which can ultimately affect the level of effectiveness of the information displayed by the website (Islam et al., 2020).

The Ease of use indicator measures user satisfaction based on ease of access to information and user-friendliness; this ease of access means that users can access information on the website anywhere and anytime (Ismatullah et al., 2022). Users do not feel difficulty or confusion learning how to use the UMS Library website, which is user-friendly. The ease of use of the website is also supported by several criteria such as consistent website use, the existence of tools that make it easy to use that can provide informative messages in the event of an error so that it can be understood by users (Saputra & Kurniadi, 2019).

The timeliness indicator measures user satisfaction related to the presentation or provision of information users need on the website. This indicator assesses the



level of user satisfaction based on the timely information that users need to be provided or displayed by the website. A website is considered timely if it can process every piece of information users need and then display it without a long time. The quality of the UMS Library website can affect user satisfaction because the user's information needs can be adequately met through the website. A just-in-time website is a website where, if the user enters an order (input), it will be immediately processed and subsequently display the results (output) quickly (Ismatullah et al., 2022).

According to calculations, all indicators have a good category, with an average of 3.17, so the user was satisfied with the library website. The correlation test indicates a strong positive correlation between website quality and user satisfaction, with a correlation value of 0.971. This suggests that an improvement in website quality is associated with an increase in user satisfaction and vice versa. It is evident from the results of the hypothesis test that the significance level is less than 0.001 but greater than 0.05. This finding indicates that the alternative hypothesis (H_a) is accepted, and the null hypothesis (H_0) is rejected.

E. CONCLUSION

There are still several aspects that need improvement. It can be seen that the average value produced on each statement item is still considered to be insufficient when viewed from the average value of other statement items, namely in question items number 18, 22, and 28 related to user privacy, services provided by the library, and the loading speed of the library website in presenting information to users. Therefore, the researcher provides suggestions to improve or improve the quality of the website so that users feel more satisfied with the services provided, including (1) Improving website security to protect the privacy of users in using the UMS Library website by designing a website that can provide privacy to users. Furthermore, a technical evaluation of the security of the library website will be conducted to identify gaps in its security. (2) Socialize users about what services are available in the UMS Library in accordance with what is written so that users can know and understand what services are available in the library. This can be through direct socialization or by creating content that the library will later upload to social media. It can also be done by adding a review page and user testimonials after using library services. (3) Improve the performance of the library website with a responsive design to ensure that when users enter a request, the website can display information quickly. The library can also ensure that the website has an optimal information display speed. In addition, it is also possible to develop advanced search or advanced search on the existing search menu by adding search criteria to limit the results according to the user's expectations so that it can provide flexibility in finding the information needed that is not limited to general data, but also more specific data.



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