

Website quality and user satisfaction: A higher education perspective

Dian Ulhaq Qurrata A'yun, Dwi Yoga Wicaksana, Syifatil Ulya, Rheyne Jufri Sifa Zie Aisyah,
and Hujjatullah Fazlurrahman*

Faculty of Economics and Business, Universitas Negeri Surabaya, Indonesia

Abstract

At the forefront of this digital revolution stands the omnipresent website, a virtual gateway that transcends geographical boundaries, providing us unparalleled access to information and services from anywhere on the globe. In this increasingly interconnected world, websites have become the digital storefronts and first impressions of entities, be they businesses, organizations, or individuals. Consequently, people often make swift and decisive judgments about an agency based solely on its online presence's user experience and interface design. Given how quickly the internet is developing, the online quality of an academic university website is essential to student satisfaction. This study explores the intricate relationship between student satisfaction and academic university website quality (usability quality, information quality, service interaction quality, and user satisfaction). It provides a detailed analysis of the student experience. We use multiple regression with a sample size of 104 student respondents. This study uses factual data and student input to analyze significant areas of academic university websites. The results show that user satisfaction with website quality is positively significant to user satisfaction. Repetitive interactions are more common on websites that excel in usability, accessibility, and responsiveness. We hope this research can help developers to improve academic university websites.

Keywords: User satisfaction; usability quality; information quality; service interaction quality, student experience

1. Introduction

Inevitably, in this age of digitalization, we shift toward technology and the internet. A website is one of the technologies we use to access a page from anywhere. People frequently make snap decisions about an agency based only on its website. The Harvard Business Review by Gavett (2014) claims that appearance is a standard indicator of professionalism. While there are differences in definitions of professionalism, a key indicator is frequently a professional appearance. Under these circumstances, organizations must be mindful of the website's layout, ease of use, authenticity of content, and "accuracy" when helping students with their education and learning. The institution's high-quality website is unmistakably a sign of its professionalism as an advanced teaching and learning facility.

A thorough and comprehensive analysis was meticulously undertaken to gauge and enhance user satisfaction with the academic university website platform. This initiative stemmed from a holistic commitment to fostering a seamless and practical learning experience for students, recognizing that the digital interface plays a pivotal role in shaping their educational journey. By systematically evaluating the user experience, the institution aimed to identify areas of strength and weakness within the website's functionality, design, and overall usability. This proactive approach was a routine assessment and a strategic endeavor to collect valuable insights into user preferences and expectations, laying the foundation for targeted improvements and developments.

* Corresponding author at Jl. Keintang, Kec. Gayungan, Kota Surabaya, Jawa Timur 60231. Email: hujjatullahfazlurrahman@unesa.ac.id

The significance of understanding user satisfaction with the academic university website platform cannot be overstated, as it guides the institution toward refining the digital tools that are integral to the educational process. By discerning the nuances of user feedback, the evaluation process becomes a dynamic tool for informed decision-making and strategic planning. The findings from this analysis contribute not only to an immediate understanding of the website's current state but also provide a forward-looking perspective, enabling developers to anticipate and address evolving user needs. Consequently, this iterative and proactive approach ensures that the academic university website remains agile and responsive to the ever-changing educational technology landscape, ultimately fostering an optimal online learning environment.

As a result of this evaluative process, the institution gains a nuanced understanding of the academic university website's strengths and weaknesses. With this knowledge, developers can implement targeted initiatives to rectify identified issues, implement enhancements, and introduce new features. This cycle of continuous improvement aligns with the overarching goal of creating a user-centric digital ecosystem that not only meets but exceeds the expectations of students. In essence, the comprehensive analysis of user satisfaction with the academic university website platform catalyzes innovation, ensuring that the institution remains at the forefront of delivering a cutting-edge, user-friendly online learning experience.

Through this evaluation and development process, the aim is to create an environment where students can easily navigate the academic university website platform, access information seamlessly, and engage effectively with the learning materials. By continuously refining the quality of the academic university website platform, developers aspire to enhance the educational experience, ensuring that students benefit from a user-friendly, efficient, and dynamic online learning tool. In essence, the ongoing commitment to evaluation and improvement underscores the dedication to delivering a technologically robust and user-centric platform that aligns with the evolving needs of the educational landscape.

This study aims to give developers useful information that will serve as a basis for raising the standard of academic university websites. As a result, this study not only discusses the problem of website quality but also gives organizations a solid basis to develop enduring connections with their audience. This study aims to further the discourse on user-centered strategies in academic institutions and website development by investigating different facets of user satisfaction.

2. Literature review and hypothesis development

User satisfaction

Based on Martínez-Navalón *et al.* (2021), user satisfaction is defined as the user's opinion of the service or products received compared to the service or products expected. User satisfaction refers to the user's comfort and acceptability of a computer application while consuming the content and interacting with the system (Putnik and Cunha, 2007).

If the user expects to receive a product or service of a certain quality, and when they receive these products and services in line with expectations, satisfaction is generated. Therefore, through User satisfaction, Institutions can know the tastes and preferences of their user (Alsini, 2017).

Through satisfaction, it is possible to study the trust and loyalty generated by users toward the institution. According to Gelashvili *et al.* (2021), using mobile Apps for restaurant reservations positively and directly impacts users' trust in restaurants. Likewise, research on tourism companies has shown that when the user of these companies is satisfied with the services, trust is generated (Martínez-Navalón *et al.*, 2019). In addition to trust, another variable that has been studied along with satisfaction by several studies is loyalty (Thamrin *et al.*, 2020).

Usability quality

Usability Quality deals with the website's appearance, ease of use, navigation, and website descriptions that reach the user (Barnes and Vidgen, 2002). One of the crucial aspects of the objects that constitute a user's daily experience is their usability. The purpose of objects is to be used. Because each unit of hardware, unit of software, and unit of human ware (services) is used to improve our experience, usability or the ability to use a task is crucial (Kurosu, 2015).

Based on Shackel and Richardson (1991) were the first to describe the concept of usability rigorously. They highlighted utility, usability, and likeability as three crucial advantages of artifacts. The utilization

of how users feel and interact with the website is the focus of usability quality, which is used to assess how user-friendly a website is (Hidayah *et al.*, 2019).

Usability is the degree to which a product meets the needs of its users in terms of effectiveness, efficiency, and satisfaction to accomplish its goals within a given context (Rahmat *et al.*, 2021). A measure of user satisfaction with an information system's ability to be used effectively and efficiently and to satisfy users to accomplish specific goals is measured by its usability (Handiwidjojo and Ernawati, 2016).

Information quality

The capability of data collection to accomplish a particular (scientific or practical) goal using a specific empirical analysis method is known as information quality, or "InfoQ." While dependent on these elements and their interactions, InfoQ is distinct from data quality and analysis quality (Kenett and Shmueli, 2014).

Instead of focusing only on data quality, maintaining the standard of the data kept in databases or data warehouses aims to provide high-quality information suitable for information students to use (Busse *et al.*, 2019) about how accurate and relevant the data presented by the university's academic website is. For example, when students search for the needed data, the website produces clear and specific results or original data. Information quality provides reliable, up-to-date, comprehensible, detailed, accurate, relevant, and appropriate information in an easy-to-read format (Kadar *et al.*, 2017).

Service interaction quality

The quality of a service interaction is determined by how well a customer's interactions with staff members or system(s) satisfy their needs in terms of friendliness, suitability, and speed (Bitner *et al.*, 1990). In this case, the interaction is between the institution and its students.

The quality of service interaction, also known as service interaction quality, should be a top priority for management. This includes concerns about website security, personal and community communication channels' availability, prompt acceptance, processing, and informing of public inquiries, complaints, and input, and the community's need for quick and easy service (Titiani *et al.*, 2020).

Research regarding service quality in information systems, marketing, and e-commerce informs Service Interaction Quality. In terms of transaction and information security when accessing websites, as well as website personalization and communication with the website administrator, the quality of interaction services is typically associated with trust and empathy (Utami *et al.*, 2021).

Service Interaction Quality is defined as having a positive reputation. Secures transactions by offering security. Confidence in the security of sharing personal information, the atmosphere is one of community, simple to stimulate interest and attention, communication becomes straightforward, and there is strong confidence in the quality of the goods or services provided (Kadar *et al.*, 2017). The quality of services users are presented with on the website is measured by service interaction quality (Hidayah *et al.*, 2019).

Correlation between usability quality & and user satisfaction

According to Firdaus *et al.* (2019), their research led them to conclude that usability significantly impacts user satisfaction, at most in part. Another study by Handayani *et al.* (2020) confirmed that usability quality positively and significantly impacts user satisfaction variables.

Excerpts from interviewees support the overall conclusions about the usability quality that users perceive based on public opinion and the current resource person's assessment, which is deemed suitable and quite good (Hidayah *et al.*, 2019).

The variables that most affect user satisfaction are related to usability, determined by their highest correlation value (Firdaus *et al.*, 2019). Haryanti and Setyorini (2019) concluded that there is a significant relationship between user satisfaction and partial usability.

Correlation between information quality & user satisfaction

A study conducted by Nugraha *et al.* (2020) and Haryanti and Setyorini (2019) research, there is little correlation between the level of user satisfaction and information quality variables. Information Quality negatively impacts user satisfaction; put another way, an increase in Information Quality will

result in a decrease in user satisfaction. On the other hand, it is obtained from the findings of the Ismunandar *et al.* (2020) studies that the variable information quality positively and significantly affects website user satisfaction.

Variable information quality significantly affects user satisfaction in certain circumstances (Firdaus *et al.*, 2019). The variable information quality has a positive and significant impact on website user satisfaction, according to the results of Ismunandar *et al.* (2020).

Correlation between service interaction quality & and user satisfaction

According to Kadar *et al.* (2017) research, service interaction quality has a positive and significant impact on the overall satisfaction of a website. In an additional study conducted by Titiani *et al.* (2020) according to her research, user satisfaction is significantly impacted by service interaction quality.

The variable quality of service interactions partially influences user satisfaction (Firdaus *et al.*, 2019). Research by Ismunandar *et al.* (2020) shows that User satisfaction on websites is positively and significantly affected by the quality of service interactions. This indicates how their website's high-quality service interactions satisfy users. Like what Firdaus *et al.* (2019) found, their research indicates that the interaction of variable quality of service significantly impacts user satisfaction.

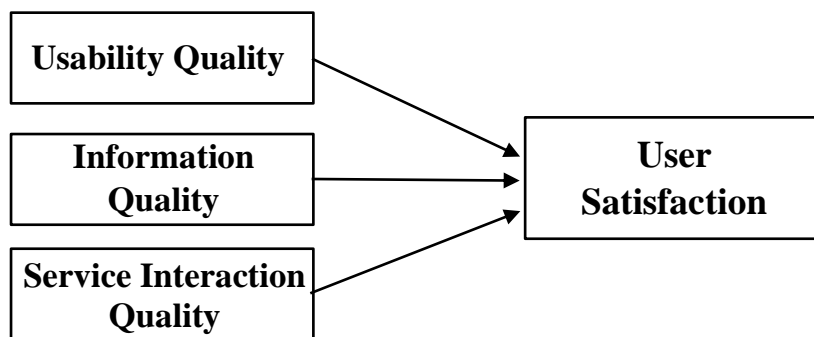


Figure 1. Research framework

Figure 1. is research framework that we use. The number of respondents to this questionnaire was 104 active students from UNESA who still use the website <https://sindig.unesa.ac.id/>. The hypothesis in this study has:

- H1: Has a positive influence between Usability Quality and User Satisfaction
- H2: Has a positive influence between Information Quality and User Satisfaction
- H3: Has a positive influence between Service Interaction Quality and User Satisfaction

3. Method

This research project is quantitative in nature. The primary data used in this study were collected from respondents. The number of respondents to this questionnaire was 104 active students from UNESA who still use the website <https://sindig.unesa.ac.id/>. In this study, the sample is saturated, meaning that every member of the population is included. This research also uses multiple regression, a statistical technique that simultaneously develops a mathematical relationship between two or more independent variables and a dependent variable. This questionnaire uses five questions on Usability Quality, six questions on Information Quality, six questions on Service Interaction Quality as the dependent variable, and five questions of User Satisfaction as the independent variable. Questionnaires is the methods used to gather data. IBM SPSS and Microsoft Excel are used to assess the study's assumptions.

This study employed judgment sampling as the method for participant selection. In judgment sampling, researchers rely on their expertise or the judgment of individuals familiar with the target population to handpick participants with characteristics deemed relevant to the research objectives. In the context of this study, the sampling method aimed to ensure that participants possessed specific attributes or experiences crucial for investigating the intricate relationship between academic university website quality and user satisfaction. This approach allowed for a purposive selection of participants

who could provide nuanced insights into the usability, information quality, and service interaction quality of academic university websites, enhancing the depth and relevance of the study's findings. The questionnaire was utilized in this study to measure each variable. It adopted the aspects of Usability Quality, Information Quality, Service Interaction Quality, and user satisfaction.

4. Results and discussion

Validation test

The validation test is conducted using the correlation technique to see the correlation value of the r-count, and the correlation value is compared to the r-table value. Using a 5% significance test of 104 samples, it was found that the r-table value was 0.1909. So, to determine whether or not it is valid, the Pearson correlation value must be greater than the r-table value.

Table 1. Test validity discriminant

Variable	Indicator	Pearson correlation	Value table-r	Info
Usability Quality	UQ1	0.693	0.1909	Valid
	UQ2	0.683	0.1909	Valid
	UQ3	0.657	0.1909	Valid
	UQ4	0.676	0.1909	Valid
	UQ5	0.786	0.1909	Valid
Information Quality	IQ1	0.693	0.1909	Valid
	IQ2	0.692	0.1909	Valid
	IQ3	0.755	0.1909	Valid
	IQ4	0.694	0.1909	Valid
	IQ5	0.738	0.1909	Valid
	IQ6	0.764	0.1909	Valid
Service Interaction Quality	SIQ1	0.721	0.1909	Valid
	SIQ2	0.583	0.1909	Valid
	SIQ3	0.509	0.1909	Valid
	SIQ4	0.639	0.1909	Valid
	SIQ5	0.598	0.1909	Valid
	SIQ6	0.707	0.1909	Valid
User Satisfaction	US1	0.747	0.1909	Valid
	US2	0.774	0.1909	Valid
	US3	0.660	0.1909	Valid
	US4	0.675	0.1909	Valid

Based on the Table 1. validation test, with a total of 21 indicators, the usability quality, information quality, service interaction quality, and user satisfaction variables have a value above 0.1909, so all four variables are valid. Thus, each indicator can measure the level of user satisfaction.

In the Usability Quality (UQ) variable, UQ5 is the strongest indicator for the four User Satisfaction. This shows that respondents consider user satisfaction to be strongly related to the feasibility of the academic university website. Variable Information Quality with indicator IQ6 is an indicator with a strong relationship. Respondents think that the existence of appropriate information will affect respondent satisfaction. In the Service Interaction Quality variable, SIQ1, respondents feel that the reputation of the Academic University website will be related to their satisfaction.

Reliability test

Table 2. Reliability test

Variable	Cronbach's alpha	Correlation	Information
UQ	0.855	> 0.6	Reliable
IQ	0.891	> 0.6	Reliable
SIQ	0.816	> 0.6	Reliable
US	0.834	> 0.6	Reliable

Reliability is done to find out how consistent the value is if a variable is tested repeatedly. This consistency will show how much the results can be relied on or trusted. Reliability is calculated using the Cronbach alpha formula obtained from SPSS. Based on Table 2. In the reliability test, Croanbach's Alpha generated from the four variables above ranges from 0.816 to 0.891, so the reliability of the four variables is high because it has a Croanbach's Alpha value between 0.70 - 0.90.

Regression test

Table 3. Linear regression test

	Unstandardized coefficients	T-count	T-table	Sig	R-Square
Constant	1.272				
UQ	0.324	5.383	1.65964	0.001	
IQ	0.129	2.078	1.65964	0.040	
SIQ	0.191	3.005	1.65964	0.003	
US					0.655

Based on Table 3. In the linear regression test, the results of the t-count of the three variables for the t-table both have a positive effect because the t-count is greater, and the results are significant because the results are below 0.05 on user satisfaction. So if the level of UQ, IQ, and SIQ is higher, the users' satisfaction will also increase. Meanwhile, the R Square value of 0.655 indicates that user satisfaction affects sales by 65.5%, and other factors influence the remaining 34.5%.

Correlation between usability quality and user satisfaction

In the context of academic university websites, where students often rely heavily on digital platforms for educational resources, a high level of usability is paramount. According to the data obtained, there is an evident connection between usability and user satisfaction regarding the Academy University website's ease of use, the clarity with which elements serve their intended purposes, and the website's good, straightforward navigation. This is consistent with the research of Firdaus *et al.* (2019). The research done by Handayani *et al.* (2020) is consistent with the findings in indicator UQ5, where respondents believe that the academy university website is possible and that this feasibility positively affects and increases user satisfaction. Thus, student happiness will unavoidably increase when this website's usability improves.

According to research Firdaus *et al.* (2019), the indicator that most influences user satisfaction is the one with the highest correlation value, meaning that indicator UQ5 is the one that is most related to user satisfaction. This indicator has the highest correlation value of 0.786. In 2018, Haryanti and Setyorini (2019) came to the same conclusion in their research there is a substantial correlation between partial usability and user pleasure. This suggests that respondents place considerable importance on the usability of the academic university website in determining their overall satisfaction. The correlation yields identical results to the research conducted by Hidayah *et al.* (2019), wherein the respondents evaluated the overall usability quality as acceptable or good enough.

Correlation between information quality and user satisfaction

The IQ6 indicator has the highest relationship value with user satisfaction among the IQ indicators. This demonstrates that academic university websites use a suitable format for their information. Students can search the academic university website for accurate and clear information. Because the object research is an academic website, information is essential for the student to get. According to research by Firdaus *et al.* (2019), user satisfaction is influenced by information quality variables in specific situations. This is consistent with research conducted by Ismunandar *et al.* (2020) the results of our research also demonstrate positive outcomes, with the highest correlation among the other variables, 0.891 in our data.

In actuality, though, this is inversely proportional to the findings of Nugraha *et al.* (2020) and Haryanti and Setyorini (2019), who found that a rise in information quality will lead to a fall in user

satisfaction. However, this is not surprising because the obtained coefficient value is less significant than the values of other variables, meaning an increase will not have a considerable effect. The significance obtained in this study almost touches the limit of the significant value, namely 0.04, so the Usability quality variable hardly significantly contributes to the model prediction.

Correlation between usability quality and user satisfaction

These results highlight the complex dynamics affecting user satisfaction and generate interest in particular domains, like information availability, usability, and website reputation, that significantly impact users' overall satisfaction with academic university websites.

Respondents stated that the development in indicator SIQ6 has been receptive to their inquiries and recommendations. This is consistent with research by Firdaus *et al.* (2019) that indicates that when users and developers interact, the developer may take additional action that results in the user's satisfaction. User interaction with the website is still more important than indicators SIQ2 and SIQ3, mainly concerned with users' sense of security when accessing the website and saving their data. However, data security, particularly cyber security, is essential in the modern era.

The results of this study indicate that the relationship between Usability quality and user satisfaction is positive and significant. This aligns with previous studies (Ismunandar *et al.*, 2020; Kadar *et al.*, 2017; Titiani *et al.*, 2020). The results of their research also show that the interaction of service quality variables significantly influences user satisfaction.

5. Conclusion

The results of tests that were carried out on 104 respondents and testing four variables, namely five questions on Usability Quality (UQ), six questions on Information Quality (IQ), six questions on Service Interaction Quality (SIQ), and four questions on User Satisfaction (US) produce a correlation >0.5 which means that all indicators described are valid. All variables tested with reliability have reliable results because Cronbach's alpha value is >0.6 , even getting a minimum value of 0.816.

Usability quality (UQ), information quality (IQ), and service interaction quality (SIQ) have a strong, positive, and significant correlation to user satisfaction. Not only based on this new research but also based on previous research. In essence, the higher the levels of Usability Quality, Information Quality, and Service Interaction Quality, the more substantial the positive influence on user satisfaction, affirming the critical role of these factors in shaping the user experience with academic university websites.

As perceived by the respondents, the academic university website successfully aligns with their needs and requirements. The manager's commendable efforts in crafting an educational dictionary website have not gone unnoticed, as users express high satisfaction with the platform. The website's design and functionality contribute to a sense of feasibility, instilling confidence in users to easily navigate and access the information they seek. Moreover, the website's commitment to ensuring safety, trustworthiness, and accuracy enhances its standing as a reliable resource for academic endeavors. Users appreciate the manager's attention to detail, creating an online space that meets their expectations and fosters a positive and productive digital environment for academic pursuits.

However, acknowledging the current success of the academic university website does not diminish the importance of ongoing development. While the website has garnered positive feedback, there is always room for improvement, and the manager's commitment to enhancing user satisfaction remains crucial. The suggestion to undertake improvements based on the results of the linear regression test and the consideration of various variables is a strategic move toward ensuring continuous progress. By systematically analyzing user feedback and incorporating data-driven insights, the manager can identify specific areas that may benefit from refinement. This iterative approach to website development, guided by empirical evidence, is poised to elevate the user experience further. Through these enhancements, the academic university website can maintain its current level of user satisfaction and exceed expectations as it evolves to meet the ever-changing needs of its user base.

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