DEVELOPMENT AND VALIDATION OF TIWUS: A TERTIARY INSTITUTION WEBSITE USER SATISFACTION INSTRUMENT

PIUS UAGBAE EJODAMEN

Admiralty University of Nigeria, Ibusa, Delta State, Nigeria.

pius247@gmail.com, https://orcid.org/0000-0002-2092-0715

ABSTRACT

Websites have become a critical tool of communication within and outside organisations. In tertiary educational establishments, websites are used to provide information to the public, process admission, course registration, and result processing, among several other uses. The intention to revisit the website is dependent on user satisfaction. There is a need for a means to measure the satisfaction level of users of a website. This study develops and validates the Tertiary Institution Website User Satisfaction (TIWUS) instrument, considering system quality, information quality, security and privacy as vital attributes to measure user satisfaction. To validate this instrument, a five-item Likert scale questionnaire with 27 items was administered to university students through Google Forms, with 350 responses accepted. A Cronbach's alpha of 0.94 indicates a very strong internal consistency of the items, suggesting high reliability of the instrument. Factor analysis was conducted, with the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy producing 0.91 to indicate the suitability of the data for factor analysis. Clarity and presentation of information were the most important dimensions to user satisfaction. The instrument developed and validated in this study can be applied to assess the perception and satisfaction level of users of a tertiary institution's website. Future studies may adopt TIWUS to evaluate other tertiary institutions such as polytechnics, monotechnics and colleges of education. Also, causal relationships may be investigated.

Keywords: Website Quality; User Satisfaction; Factor Analysis; Website Evaluation; Tertiary institution.

1. INTRODUCTION

User satisfaction with using computer technologies is critical. Chiome and Darem [1] emphasised that user experience, simplicity and user-friendliness of the system design, and its ease of use are critical for system adoption. Several researchers have reported different factors that influence user satisfaction, website experience and engagement, ease of use and usability, website quality, as well as other services available in educational websites. Usability is a critical factor that correlates with users' experience, emphasising that design and navigation on the website influence students' satisfaction. Importantly, the academic performance of students can be affected by their satisfaction with using the system for online learning [2].

For several decades, computers have played major roles in several areas of society, including businesses and education. In the education sector, tertiary institutions are also developing an online presence. A website is an important tool for communicating information about a tertiary institution. It

is important that visitors develop a positive impression towards the website, as this can influence their intention to revisit or even patronise the institution's services [3]. Besides, a website provides tertiary institutions with a wider reach to prospective students. It is not surprising that most universities have developed dedicated websites for their institutions. Assessing user satisfaction for tertiary institution websites involves analysing multiple dimensions of user experience, including usability, content quality, and website design. Research indicates that user experience is crucial for educational website success, as it encompasses all user interactions and responses.

Educational institutions, especially tertiary, are creating websites to manage academic records, lecture materials, staff profiles, and make information available to the general public. University websites are platforms created to enhance users' access to administrative, academic, and general information [4]. It is possible to get relevant information about an educational institution located far away. As a result, there is an increasing need to make institutions' website as attractive and engaging as possible to encourage revisits. To achieve this, there need for an instrument to measure the satisfaction of website users.

This study evaluates users' satisfaction with the tertiary institution's website. A questionnaire is developed as a measuring instrument to elicit information from users of the institution's website. The questionnaire is widely accepted as a valid tool for measuring user satisfaction ([3], [5]; [6]).

The scope and delimitation of this study borders on undergraduate students who have access to their institution's website. Respondents were sampled from a university.

2. THEORETICAL FRAMEWORK

The Tertiary Institution Website User Satisfaction (TIWUS) instrument presented in this study is inspired by theoretical foundations such as information systems success model, user satisfaction theory, technology acceptance model, security and trust, as well as aesthetic/interface design theory.

In the information systems success model, DeLone and McLean [7] proposed that the dimensions of website quality include system quality, information quality, and service quality. Bailey and Pearson [8] developed the user satisfaction theory, describing satisfaction as a multidimensional approach where multiple attributes.

The Technology Acceptance Model (TAM), which was developed by Davis [9] opined that technology adoption and intension to use a system can be determined by perceived usefulness and perceived ease of use. Furthermore, trust is important in tertiary institutions, expecting that their personal and academic information will be protected from unauthorised access. This theory of trust and security, which is relevant in this study, is supported by Sahi [10] who described trust as "the most significant predictor of user satisfaction" with respect to online environments. In the theory of aesthetic and interface design, Aladwani and Palvia [11] posited that the aesthetic quality and multimedia integration in web-based systems influence user perceptions and satisfaction. Visual appeal, appropriate use of colours and images, and effective multimedia implementation are components of Aesthetic design.

3. LITERATURE REVIEW

The policy of a tertiary institution can influence students' behaviour. For example, mandatory requirement to register semester courses may compel the students to use the website, irrespective of the level of satisfaction. Ekong et al [12] reported that, while the teacher's influence could affect attitude and behaviour of students towards using technology, the perceived usefulness and its ease of use is a major determinant of the user's satisfaction. Similarly, Peng [13] agrees that perceived usefulness of educational websites enhances productive learning experiences.

Website application for learning was studied by Lopez et al [2], and its effect on the academic performance of students learning Mathematics was examined. The study established that the academic performance of students in mathematics was affected by the satisfaction they derived from the online learning platform.

System quality has been emphasised as a significant determinant of users' perception of satisfaction. Nauli[14] established the correlation between the information systems' quality and user satisfaction. Kendle and Chipangura [15] further showed that the quality of mobile-devices capable of displaying websites will tend to towards higher customer satisfaction.

3.1 User Satisfaction

Bailey and Pearson [8] define user satisfaction as the "sum of one's positive and negative reactions to a set of factors". On their part, Lascu and Clow [16] defined satisfaction as a function of expectations and performance. Bargas-Avila et al [6] considered user satisfaction with respect to computers as an affective attitude. Sahi [10] observed that there is huge potential for online presence, such that businesses are increasingly building websites as important tools for disseminating and communicating vital information. Bailey and Pearson [8] argue that a user's sense

of satisfaction with computer services directly determines the utilisation of such a system. Meaning that the success or otherwise of an institution's website will be dependent on the level of users' satisfaction in using it [10].

The desire of management to improve the productivity of information systems has stimulated research in the measurement and analysis of computer users' satisfaction [8]. Bilgihan and Bujisic [5] reported that research has identified that the positive outcomes a visitor to a website seeks can be either hedonic or utilitarian orientations. Hedonic orientation applies when the user accesses the website for pleasure, amusement and enjoyment (e.g. looking at pictures of a recently held event or taking a virtual tour of the institution's campus). On the other hand, utilitarian orientation results in the website user aiming to achieve a particular goal such as checking the lecture timetable.

DeLone and McLean [7] proposed that the quality of a website can be grouped into system quality, information quality, and service quality. These website quality groups were considered in the work of Maditinos et al [17], providing the main constructs adopted but modified to include other vital factors not included. Some attributes of user satisfaction not included in Maditinos et al [17] are discussed. This study adopts items from previous related literature to form a comprehensive website users' satisfaction instrument.

System quality refers to features of a system that a user considers appealing. The performance of the system, its usability and reliability are considered important features. In web-based applications such as in mobile devices, systems perceived as high quality attracts higher customer satisfaction [15]. The perception of quality cannot be overemphasized in an academic information system as it correlates with user satisfaction [14]. The usability of the system impacts on the users' perception about it and the intention to accept such a system [18].

Liu [19] agrees with DeLone and McLean [7] that the quality of information influences the perception of satisfaction of its users. In educational websites, the nature of information that is available will largely determine its user satisfaction.

Sharma and Lijuan [20] described service quality as "how good the service supplied by an information service provider is, in terms of the internal organisation, external provider, and a third party". Mei et al. [21] describe service quality as the effectiveness of support a user of an information system receives. A satisfaction of a user will be enhanced if there is an adequate support team to help out in this of difficulty when using the system. This is significant of websites, where users are not at the same physical location as the owners of the

system. An online support or guide, when needed, can greatly influence the perception of user satisfaction.

In developing a Web Acceptance Model (WAM), Castañeda et al [22] posited the moderating effects of user website experience on ease of use and perceived usefulness as determinants to use a website. They attempted to test the ability of the Technology Acceptance Model in determining a website acceptance. WAM showed an acceptable overall fit, with 'website experience' showing a high moderation effect in attracting the user to revisit the website. The data used to measure the website experience attribute was obtained from the recorded surfing data on the website server. Although Maditinos et al [17] objects the claim that results derived from server logs' statistics – such as duration and frequency of visits could be used to measure users' satisfaction about a website. Noting that such data cannot clearly determine satisfaction but a multi-attribute approach, as used by most researchers, is more suitable.

3.2 Construct Domain

Lascu and Clow [16] emphasise that the process of scale development requires an in-depth understanding of the construct to be measured as well as the theoretical framework which forms the basis of a construct. They further stated that if the theory does not rest firmly in one domain, it poses a challenge to in psychometric measurement. However, a clear conceptualisation that leads to an accurate definition of the construct domain is a good measure [16].

Based on previous research, Bargas-Avila et al [6] summarized the basic areas covered by user satisfaction instruments as quality of information of the system and the human-computer interface design. Bailey and Pearson [8] identified 39 factors which they opined were a complete domain for measuring computer user satisfaction. They noted, however, that what causes satisfaction may differ from one user to another. They submitted that satisfaction in a service/product is the sum of the various factors that affect that service/product [8].

Several researchers have used various labels for website attributes, with each construct reflecting a specific concept to identify how users feel satisfied with websites [17]. The factor that influences the user's satisfaction may vary from user to user. However, Bailey and Pearson [8] identified the most important factors for measuring user satisfaction as Accuracy, Reliability, Timeliness, Relevance, and Confidence in System. Delone and Mclean [7] considered web quality as the most important determinant of user satisfaction. Castañeda et al [22] opined that user experience had a moderating effect on users' future behaviour. Furthermore, Sahi [10] identified 'trust' as the "most

significant predictor of user satisfaction". In other words, trust is a group of beliefs held by a person derived from his or her perceptions about certain attributes. This trust can be modified over time as more knowledge is obtained. It can be argued that a website user's privacy can greatly influence the amount of trust in the system. Similarly, if the user believes that transactions on the website is safe from malicious activities and unauthorised users, this will increase how much of trust attributed to the system. Sharma and Lijuan [20] opined that trust could encourage consumers to be comfortable with sharing personal information and making purchases, and this establishes customer loyalty.

3.3 Research Gap and Problem Statement

The website satisfaction measuring instrument developed by Maditinos et al. [17] was for general and specific attributes of websites. All constructs attained above 0.5 item-total correlations, but context-specific websites, such as those of universities, were not evaluated. Similarly, the DeLone & McLean [7] model identified system quality, information quality, and service quality as core determinants of website quality, with the model aimed to be used as a generic tool to measure user satisfaction with information systems. The studies lacked validated context-specific instruments for evaluating user satisfaction with the tertiary institution website. In addressing the identified gap, this study adopted the general and specific attributes from those studies and extended them to include website aesthetics as an additional dimension in evaluating user satisfaction. Furthermore, this study seeks to identify and validate the key attributes that characterise user satisfaction in context-specific cases such as tertiary institution websites.

3.4 Research Questions

This study is guided by these research questions.
Research question 1 (RQ1): Can TIWUS be reliably used to measure user satisfaction with tertiary institution websites?
Research question 2 (RQ2): What attribute(s) of tertiary institution websites characterise user satisfaction?
Research question 3 (RQ3): Which website attributes have the strongest factor loadings in measuring user satisfaction?

3.5 Methodology and Research design

Quantitative research method guided this study to analyse user satisfaction with a university website. With significant modifications, this study adopts the specific website attributes developed and validated by Maditinos et al [17]. The instrument provides two (2) categories, namely: General attributes and Specific attributes. In this study, the focus is on a specific institution's website and not on measuring websites in general. However, both the general

and specific attributes are considered into the evaluation statements shown in Table 1.

Table 1: Website attributes

S/N	General Attribute	Specific Attribute	Item Construct
1.	Access	Speed of access	I have easy access to information on the website
2.		Speed of access	I have fast access to information on the website
3.		Availability	The website is always active/online whenever I want to access it
4.	Friendliness	Organization	The website is well organized and user-friendly
5.	Navigation	Hyperlinks	I can easily use hyperlinks to navigate through different pages on the website
6.		Page-loading	The web pages load quick enough
7.	Interactivity	Two-way communication	I can interact/communicate well with the website
8.		Active control	I determine the pages and sections I view on the website
9.	Usefulness	Relevant	I find the information on the website relevant for the purpose it is needed
10.		Detailed	The website contains complete and detailed information
11.	Understandability	Easy to comprehend	The information on the website is clear and well presented
12.		Well-presented	It is easy to understand the information presented on the website
13.	Reliability	Up-to-date	I get updated information from the website
14.		Accurate	The information in the website is accurate and precise

15.	Privacy	Confidentiality	When I visit the website, my personal information is protected; my privacy is guaranteed
16.		Integrity	The website's information are not modified or corrupted
17.	Security	Protection	Data in the website is well protected against viruses, malware, or any malicious software
18.		Authorization	The website permits only authorized access to certain information

Furthermore, other vital attributes such as service quality, aesthetics, and website experience are shown in Tables 2 and 3. In addition, this study adopts a multi-attribute, multi-scale approach to measure the experience of users with the institution's website. Table 3 shows the items used for the construct to measure user satisfaction based on their experience using the website. Duration spent on the website and the years of recurrent access was considered with the aim of understanding how experience in using a website could influence users' perception. The Likert scale for frequency of access was in years, time spent was measured in hours. While this variable slightly defers from Strongly Agree/Disagree variable, the scales of 1 to 5 was maintained.

Table 2: More website attributes

S/N	Attribute	Item Construct	Supporting Reference
1.	Service Quality	In case of further enquiries, I can find contact information (e.g email, phone numbers e.t.c) on the website	Sharma and Lijuan [20]
2.		I get customer support from the managers of the website	
3.	Aesthetics	I find the website attractive	Aladwani and Palvia [11]
4.		The website adopts proper use of multimedia (e.g pictures, videos, e.t.c.)	
5.	Satisfaction	I am satisfied using the website	Maditinos et al [17] .
6.		I feel fulfilled whenever I visit the website	

Table 3: Website Experience attribute for measuring user satisfaction

Website Experience (Frequency of access)	Less than 1year	1 – 2 years	2 – 3 years	3 – 4 years	Over 4years
I have been accessing my institution's website for					
Website Experience (Time Spent on website)	Less than 1hour	1 – 2 hours	2 – 3 hours	3 – 4 hours	Over 4hours
On each visit to the website, I spend time as much as					

3.6 Data collection

Data was collected with the aid of a questionnaire containing 27 items to measure user satisfaction, and demographics of respondents such as gender and age group. Convenience sampling technique was adopted due to availability of the students willing to respond. The questionnaire was administered using Google forms and each item is presented in a standard Likert scale. Previous studies [12; 23) have used 5-point Likert scale which this study adopts with the qualifiers: SA=Strongly Agree, A=Agree, U=Undecided/Unsure, D=Disagree, SD=Strongly Disagree; the values range from 1 – "Strongly Disagree" to 5 – "Strongly Agree". The scale improves reliability and reduces bias with an increased number of choices and an opportunity for the respondent to stay neutral. With the neutral option available, respondents are not compelled to either agree or disagree with each construct.

3.7 Reliability of instrument

Bailey and Pearson [8] defined reliability as the "absence of measurement error", noting that a measurement instrument will be considered reliable if it produces consistent and error free results when it measures the same object (p 535). Cronbach [24] provides a metric known as "Cronbach Alpha" which is extensively used to measure the reliability of an instrument. Various studies rely on this metric to determine the reliability of an instrument [25]. It is a statistical measure of internal consistency reliability measure of responses from an instrument such as a questionnaire; it gives a value between 0 and 1 to reflect how

closely related are a set of items. A Cronbach alpha value of 0.9 or higher is considered to be excellent, 0.8 to less than 0.9 is good, 0.7 to less than 0.8 is acceptable, while 0.6 to less than 0.7 is questionable, and less than 0.6 is regarded as poor [24].

In this study, the Cronbach's alpha was 0.94 for 27 items used in the survey. This suggests an excellent internal consistency and reliability of the items administered to measure user satisfaction of a tertiary institution's website.

3.8 Validity

The extent an instrument measures what it is expected to measure is known as validity. Notable categories of validity include content validity and construct validity. Content Validity checks if the instrument considers all relevant aspects of the attribute being measured to ensure it is "complete and sound" [8]. Domain Experts reviewed the statements to ensure content validity, while confirmatory factor analysis confirmed the construct validity. Furthermore, the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy is used to determine the suitability of the data for factor analysis. The KMO for this study is 0.91 which indicates that the items suitably correlate to justify a factor analysis [26; 27].

4. RESULT AND DISCUSSION

Maditinos et al [17] suggested some general and specific attribute that can be used to evaluate user satisfaction with a website. In this study, statements have been developed and fine-tuned for each identified attribute. In addition, several statements have been developed to measure the level of satisfaction. The demographics of respondents and experiments to confirmed identified attributes.

4.1 Demographic Analysis

To be included in this study, responses were obtained from Admiralty University of Nigeria (ADUN), and website users must have completed at least a full semester and have used the website. Out of 381 responses received, 350 were accepted while others were deleted due to incomplete entries or did not meet the inclusion criteria for this study. A total of 249 (or 71.1%) were males, while 101 (28.9%) were females. This is reflective of the gender disparity in the sampled population. Half of the respondents were below 18years and majority of others were between 18 to 29 years old.

Furthermore, it was expected that responding students must have completed one semester. Hence, 86% were freshers, while others had spent more than one year using the school's website. During the period of access to the website, most (83.1%) of the respondents spent less than an hour on the site, 14.6% spent between one to two hours, while 2.3% spends

above two hours on the site. This suggests that the respondents visit the site mainly for specific purposes and do not stay long.

4.2 Empirical Results

An Exploratory Factor Analysis (EFA) is a statistical approach to understand the underlying structure and latent factors inherent in large sets of observed variables. When applied to data such as from responses, it gives a better understanding of correlations between the items. In this study, we present statements for each attribute that can measure the satisfaction of users of a tertiary institution's website. Principal Component Analysis and varimax rotation were applied and resulted in four factors after seventeen iterations.

Maditinos et al [17] had presented attributes to measure user satisfaction with item-total correlation of above 0.5 in all cases. Similarly, in this study, all attributes had a threshold item-total correlation above 0.42 in all cases. Hair et al [28] noted that factor loadings above 0.40 are important, while more than 0.30 are acceptable. However, the statement "It is easy to use the features of the website", initially meant to also measure "Friendliness" (as presented in Table 2), was removed because it loaded almost equally under system quality and information quality; its removal didn't significantly affect the internal consistency.

Table 4 shows the correlation loadings for each factor: system quality, information quality, security and privacy, as well as user satisfaction. It is noteworthy that statements depicting aesthetics were introduced in this study. This suggests that the attractiveness of a website and how multimedia is used to improve user experience can greatly influence satisfaction.

Table 4: Rotated Component

Item	Factor Loading
System Quality	
I have easy access to information on the website	0.730
I have fast access to information on the website	0.767
The website is always active/online whenever I want to access it	0.727
The website is well organized and user-friendly	0.498
I can easily use hyperlinks to navigate through different pages on the website	0.421
The web pages load quick enough	0.646
I can interact/communicate well with the website	0.563

I determine the pages and sections I view on the website	0.479
Information Quality	
I find the information on the website relevant for the purpose it is needed	0.674
The website contains complete and detailed information	0.727
The information on the website is clear and well presented	0.774
It is easy to understand the information presented on the website	0.766
The information on the website is accurate and precise	0.458
Security & Privacy	
When I visit the website, my personal information is protected; my privacy is guaranteed	0.586
The website's information are not modified or corrupted	0.645
Data on the website is well protected against viruses, malware, or any malicious software	0.723
The website permits only authorized access to certain information	0.719
In case of further enquiries, I can find contact information (e.g email, phone numbers e.t.c) on the website	0.567
User Satisfaction	
I get updated information from the website	0.540
I get customer support from the administrator of the website	0.616
I find the website attractive	0.738
The website adopts proper use of multimedia (e.g pictures, videos, e.t.c.)	0.560
I am satisfied using the website	0.658
I feel fulfilled whenever I visit the website	0.707
I have gained so much from using the website	0.691
Using the website has increased my knowledge about this institution	0.683
I will like to revisit the website again next time	0.708

4.3 Answers to Research Questions

Research Question 1: Can TIWUS be reliably used to measure user satisfaction with tertiary institution websites?

This proposed Tertiary Institution Website User Satisfaction (TIWUS) instrument demonstrates strong reliability and validity for assessing context-specific user satisfaction, particularly websites of tertiary institutions such as Universities. The instrument is structured and contains items that measure general and specific website attributes with excellent internal consistency of 0.94 Cronbach's Alpha. Furthermore, the dataset used to evaluate TIWUS was "marvellous" with a KMO of 0.91.

Research Question 2: What attribute(s) of tertiary institution websites characterise user satisfaction?

This proposed TIWUS instrument revealed four distinct attributes that characterize user satisfaction in the use of a tertiary institution's websites. Information quality, system quality, security and privacy, as well as user satisfaction (as the outcome variable) indicators. The data in Table 4 indicates that Information quality items demonstrated the highest factor loadings with clear and well-presented information (0.774) showing the highest loading. Also, the ease of understanding (0.766) the information in a website and how complete and detailed the information (0.727) also showed strong factor loadings.

The factor loadings for system quality are between 0.421 and 0.767, with fast access (0.767), easy access (0.730), and website availability (0.727) showing the highest loadings within the system quality dimension. On the other hand, easy hyperlink navigation (0.421), although above the acceptable threshold, showed the lowest loading within system quality. The assurance of protection against viruses/malware (0.723) from the website and controlled access (0.719) emerged as primary indicators of the security and privacy dimension. Furthermore, this study reveals that the attractiveness or aesthetics (0.738) of the website emerged as the strongest-loading item within the user satisfaction dimension. Similarly, the positive feeling after visits to the website (0.707) and behavioural intention to revisit (0.708) were key indicators of user satisfaction.

Research Question 3: Which website attributes have the strongest factor loadings in measuring user satisfaction?

As shown in Table 4, the items with the strongest indicators across all dimensions included information clarity and presentation (0.774), fast access to information (0.767), easy to understand the information on the website (0.766), attractiveness (or aesthetics) of the website (0.738), as well as easy access to information (0.730). Information quality and system quality items demonstrated consistently high factor loadings, suggesting these dimensions are well-defined constructs in users' evaluation of tertiary institution websites. Importantly, items with comparatively lower factor loadings (though still above acceptable thresholds) include navigation with hyperlinks (0.421), accuracy of information (0.458),

active control (0.479), and organisation/user-friendliness (0.498).

5. DISCUSSION ON THE RESULTS

The findings in this study implies that statements used to evaluate each attribute are suitable to measure user satisfaction with respect to websites of tertiary institutions. The findings suggest that the quality of information in the website of a tertiary institution is most important to the student. A factor loading of 0.774 for clarity and presentation of information was prominent, while the ease of understanding the information (0.766) also ranking high. Similarly, the speed (0.767) and ease (0.730) at which the information is made available to the student will highly influence satisfaction. It is possible that the respondents, who are mainly less than a year using the website, require clarity of information and ease of understanding.

A cut-off threshold of 0.42 was enforced to ensure that the factor loadings were properly aligned. Most of the item-total correlation produced above 0.5, except for some few specific constructs such as organisation/user-friendliness (0.498), active control (0.479), accuracy of information (0.458), and navigation with hyperlinks (0.421). These constructs are worth noting and how they could have influenced the users' satisfaction. At an average of 0.656, user satisfaction was relatively high but could have been higher if the aforementioned specific attributes were higher. This finding also suggest that the university website used in this study need to improve in the areas with lower item-total correlation for a better perception of satisfaction by the students.

This study adhered to ethical requirements. The researcher was authorized to carry out survey and the respondents willingly accepted to respond. Responses were autonomous without any identification of the respondents; this notice was clearly available in the form.

6. CONCLUSION AND RECOMMENDATION

Computer technology is now a basic tool for discharge of administrative and academic responsibilities. Among several uses, computer technology enhances communication via platforms such as website. In tertiary institutions, websites have become a major requirement to process students' admission, course registration, results, as well as information dispersal. It has become important to consider user satisfaction, as it can influence desire to revisit the website. Hence the need for an instrument to evaluate the level of satisfaction of website users. This study provides constructs/statements to measure user satisfaction based on attributes identified from literature. A 5-Likert scale questionnaire was administered to students of a university through online, after a content validity was affirmed by

domain experts. The instrument showed a high internal consistency with a Cronbach Alpha of 0.94 for the 27 items. Results confirm the findings of other researchers that system quality and information quality are critical attributes to measure user satisfaction. Security and privacy of user's information is also an attraction to revisit the website.

It is recommended that this instrument can be used to ascertain the level of satisfaction of users. Tertiary institutions should consider improving the quality of information on their website, make them fast and easy for users to access. Also, the aesthetics of the website is an attraction to users. This current study focused on one university, but future studies may investigate its applicability to several tertiary institutions including polytechnics and colleges of education.

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