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An Assessment of Students' Perception of Institution Websites and Portals for Academic and Information Purposes

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Abstract:- The usage of the Internet by international companies to connect with and engage both existing and potential customers has increased in the twenty-first century, regardless of hurdles like geographic separation and time zone variations. As a result, the use of digital products has dramatically increased. Thus, the usefulness of a digital product as determined by user ratings is crucial. An evaluation of usability aims to elicit consumers' opinions about a specific digital product. To establish standards, John Brooke created the Software Usability Scale (SUS), which measures how consumers perceive the usability of digital goods. This research seeks to ascertain the perception of students in Federal College of Education (Technical), Asaba on the use of the College portal and website for academic and informational purposes. Our study makes use of a descriptive survey design with three research questions, with a sample size of one hundred and fifty (150) students drawn at random from the several departments. For the purpose of gathering information, a survey titled "Students Perception on the Increased Use of the College Website and Portal (SPIUCWP)" was employed. As a model for creating the questionnaire, the System Usability Scale was used. To examine the data gathered, mean and standard deviation were employed. The majority of students criticized the current static nature of the College website considering it to be little essence to both the college and students. With an average mean over 2.50, it was obvious that most respondents were willing to regularly engage with a more vibrant and user-friendly website that can encourage remote learning and other information services relevant to their academic. A key suggestion for this study was the redesign of the current college website and portal to make it more dynamic and user-friendly.

I. INTRODUCTION

With the advent of the global pandemic in late 2019, most organizations around the world have embraced the reality of telecommuting or remote work as the new normal. This approach was adopted to stem the spread of the coronavirus while ensuring that organizational activities were not ground to a halt (Bruinen de Bruin et al., 2020). This work-from-home policy has led to an upsurge in the use of software applications and digital hardware devices in workplaces, homes, and academia (De' et al., 2020; Pedro, 2020). To avert the future disruption of academic activities by most educational institutions in Nigeria (where an entire academic session was lost as most institutions couldn't adopt or develop appropriate strategies to address the issue), the Federal Government of Nigeria in collaboration with the Tertiary Education Trust Fund (Tetfund) began an extensive collaboration with relevant stakeholders, agencies of government and the organized private sector to create electronically driven technologies to address core administrative and academic activities in most tertiary institutions (e.g. course registration, teaching and learning, library services, result computation, and transcript generation). This was meant to mitigate future global challenges. In a bid to adopt technology as a means of curtailing the harmful effects of similar challenges in the future, an enormous leap in the budget provision for ICT development from about three hundred and thirty million naira (N330, 000, 000:00) in 2019 (Tetfund, 2019) to over two billion naira (N2, 000, 000, 000:00) in 2020 (Tetfund, 2020).

In order to guarantee user satisfaction with the usage of software applications and digital devices, the System Usability rating was created. The System Usability Scale was the most commonly adopted grading system created by several regulatory agencies (Lewis & Jeff, 2009; Ojugo&Otakore, 2018). Due to its apparent simplicity in the evaluation of digital devices, the System Usability Scale (SUS) has been a well-researched and widely used survey

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instrument (Armbrust et al., 2009). Currently, there are a lot of usability evaluation tools available, however the most of them need payment (Albert & Tom, 2013; Brooke, 1996) and are designed to examine clients' subjective assessments of systems. The System Usability Scale (SUS) has largely been accepted by researchers as a valid method of obtaining user feedback on information systems. This is mostly because of its powerful advantages. In order to examine participant responses, SUS uses ten (10) items that are each scored on a 5-point scale. Furthermore, SUS's evaluation is effective in both large and small sample sizes due to its incredibly robust character (Tullis& Stetson, 2004).

A. Study Objectives

This study seeks to investigate students' perception and usage of the Federal College of Education Technical Asaba website – for academic information and retrieval purposes using the following objectives:

Ascertain the level of utilization of the College website and portal by the respondents for academic and information purposes. To also interrogate various templates or rating scales that will be appropriate to solicit the required data from the students. For this purpose, the study adopts the System Usability rating owing to the plethora of benefits it offers.

Develop research questions in line with the SUS questions to effectively evaluate participants' responses in line with the observed limitations of the existing site and portal.

Ascertain the perception of college students towards the adoption of a remodeled and improved College website and portal for academic and informative purposes respectively. It also seeks to determine students' perception of the college site as a complementary platform for pedagogical purposes while rating the ease of use of the current college website and portal.

B. Research Questions

The following research questions were formulated for this study;

- Do students find the current College website and portal easy to use?
- Are students aware of the limitations of the current College site and portal?
- Are students willing to engage with a more interactive and user-friendly site and portal for academic and informational purposes?

II. USABILITY, WEBSITE EVALUATION AND CLASSIFICATION METHODS

- **Website usability**

  The objective of website usability study is to examine the degree of a user's experience and related convenience when engaging with the site. Users learn a ton when a website's usability is significantly enhanced. A website's usability can be critically examined to help designers and site owners, among other things, reduce errors in system delivery, improve accuracy, and enhance good attitudes among users. Students' interest is maintained, their confidence is increased, and their learning is improved when a site can adapt. Additionally, it motivates them to visit the website more frequently. The usability of a website should therefore be evaluated from the viewpoint of the user (Björneborn & Ingwersen, 2004).

  Ojugo and Otakore (2018) define usability as the assessment of how efficient, reliable, easy to use, economical, structured, intuitive, and straightforward it is to carry out tasks inside a web page via sped-up user navigation. Users commonly generate expectations based on information that is already available and past interactions with the same or similar websites. It is now essential for designers to carry out task assessments and research in order to get a complete picture of what their customers are expecting. Studies have also shown that people frequently react in line with their expectations despite on-screen evidence to the opposite. Employing well-known formatting, navigation, and theme styles is essential because they aid users in remembering and comprehending a site's organization. It is better to assume that a certain percentage of users won't use a website frequently enough to become accustomed to using it. As a result, the designer should adopt well-established conventions that users are accustomed to. This method works best (Ojugo&Otakore, 2018).

  Web designers may connect to their sites and/or pages depending on the relevance of their data content and a few personal interests. Websites and individual pages are regularly categorized using site structure and hyperlink relationships. If a collection of journal section pages can be found at www.xyz.com. They are all members of the same unique category. A user is commonly assumed to want to visit the page after them if it belongs to the same class as the one they are currently on. Developers must therefore create carefully crafted, reliable links that point to websites that define a particular category. All of the pages that particular link links to are still included in the same category. Based on initial page ranks and later, user access frequency, the sites are then further separated into tiers. Additionally, a lot of prediction models do this function using logs or historical data, while others are built using page rankings and dynamically updated when HTTP requests from users arrive at the server (Chevalier et al., 2003).

  Iterative life cycles that encompass analysis, design, implementation, and testing are used to gradually create systems. When analyzing websites, De Bruin et al. (2020) made a distinction between three key metrics: (a) structure (organization and links to the site's navigation), (b) usage (visit frequency, page views, sessions, unique users, and duration), and (c) contents. They further separated the assessment pattern into ways for user, evaluator, and tool-based user evaluation (UEMs). A new categorization system based on the platforms and objectives of evaluation is also highlighted, with a focus on the evaluation procedures. They proposed differentiation as a means to create high-quality websites based on predetermined criteria that were only constrained by the number of websites. While numerous

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software testing tools are used in the automatic evaluations, the manual review also includes expert user testing (Agarwal &Venkatesh, 2002). The findings of such an evaluation offer a list of usability problems as well as recommendations for improving the examined website. These classifications are further broken down into the following ways (Gray &Salzman, 1998; Ojugo& Eboka, 2018; Ojugo&Otakore, 2018; Palmer, 2002; Pearson et al., 2007; Pedro, 2020; Peterson, 2006; Tarafdar& Zhang, 2005):

- User-based evaluation: The process of designing for usability, user testing, and redesigning is known as user-centric design. The term "usability evaluation" refers to the entire test process, from planning to carry out the assessment to presenting the results. Its goal is to assess a system's usability and identify the problems that lead to user displeasure, confusion, or blunders. As part of the user evaluation technique, users perform specific tasks on a selected system. Users' proficiency with the interface and level of satisfaction with it are monitored. User testing is by far the most common, useful, and realistic strategy here. Additionally, interviews, questionnaires, think-aloud exercises, and field observations are suggested (Kantner& Rosenbaum, 1997).
- Depending on the technique, experts verify the user interface and assess the usability of the system to pinpoint any potential user concerns. They may do this by using interface rules, design standards, users' jobs, or their knowledge. The inspectors can be usability specialists as well as knowledgeable designers and engineers. There are a number of inspection methods in this field, including heuristic evaluation, standard inspections, cognitive walkthroughs, and guideline reviews (Palmer, 2002).
- Heuristic evaluation, a very successful usability engineering technique, is particularly helpful when time and resources are constrained. A number of evaluators look at an application to see if it adheres to a set of usability criteria or principles. Nielsen's heuristics are among the so-called "discount usability approaches," which are easy, quick, and inexpensive. During this evaluation, each tester personally navigates the system interface at least twice, and the results are a list of usability flaws related to the flawed heuristics. One viewpoint contends that having five judges yields better outcomes, and that three judges must be present for results to be considered adequate. Theoretically, one evaluator may do a heuristic assessment and identify 35% of usability issues (Xing &Shen, 2004).
- Automatic website evaluation tools are used to gather information about interface usage and identify potential web problems. 2002 saw the initial study on automated tools published by Ivory and Chevalier. They reach the conclusion that additional research is necessary to validate the embedded recommendations and to functionalize the tools. Experts cannot therefore only rely on these to improve websites. There are many different types of web testing software, including tools for evaluating websites' usability, performance, security, and accessibility, such as WebTango, LIFT, and Bobby. He claimed that the usage of tools is constrained by the absence of accepted methods for their comparison. Thus, he suggests that it is equally important to evaluate the effectiveness of automated technology. Numerous automated tools are available as services or applications. You can enter a URL to be evaluated and receive a report on whether it complies with Section 508 requirements and/or the Web Content Accessibility Guidelines using Cynthia Says (www.cynthiasays.com), a well-known and free Web accessibility tool from HiSoftware (WCAG).

III. REVIEW OF RELATED LITERATURES

Bangor et al. (2008) examined the usability of websites with a focus on two (2) types of users, consumers and investors, using the Microsoft Usability Guidelines. They looked into four industries: online booksellers, automakers, airlines, and vehicle rental companies. According to the findings, content is crucial, followed by usability. They continued the investigation in 2013 and explored how six (6) online design factors, including data content, navigation ease, download speed, personalization, security, availability, and accessibility, impacted the evaluation of roughly 200 websites. Two users were used in total. They selected 40 websites from each of the following categories: shopping, news and information, portals and search engines, and financial services. The findings revealed that while security and customization did not affect a website's usability, the other factors did (Bangor et al., 2008).

According to five design criteria—navigation, download speed, personalization, usability, and accessibility of commerce sites—Kortum and Bangor looked into the opinions of 178 users. The goal was to determine which factors are most important to web design success and whether gender matters. The findings indicated that navigation and usability were the most crucial factors, whereas customization and personalization were of secondary importance. Female participants placed higher importance than male participants on these site usability characteristics (Kortum& Bangor, 2013).

Additionally, Orfanour and his colleagues looked at what consumers thought about the relative importance of site design in six different industries: finance, e-commerce, education, medicine, entertainment, and government. Some accomplishments were significant for all sites, while others were only highly ranked for a specific kind of site. Other websites may not value comprehensiveness of content as much as educational and medical websites do (Orfanou et al., 2015).

On CNN's website, Baccus and his colleague also employed a 2-factor approach for design and evaluation: hygiene aspects, which make a site usable and prevent user discontent, and motivational elements, which increase user pleasure but may not be necessary to prevent it. The study found that motivational aspects also include the websites'

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enjoyment, credibility, and cognitive results, while hygiene considerations include technical, navigational, privacy, and security systems. 86 percent of participants overall agreed that the type of website influences how they evaluate this (Baccus et al., 2018). Webometrics, which aims to determine the amount of experience and convenience of users who engage with web-based systems, is impacted by usability, according to Ojugo and Otakore. Based on a set of criteria, it assigns grades to important website features. In order to fulfill a user's search for information about the institution, the website's design, architecture, and deployment must be ready to alter, reshape, and refocus a user's perception. With a focus on the Federal University of Petroleum Resources Effurun, Nigeria, our study examines the usability of websites using a few criteria that identify the usability of academic websites. The outcome demonstrates the websites' advantages and disadvantages (issues and future prospects) with regard to revamping and enhancing the university website. Its content and architecture are its greatest assets, however the site failed to provide efficient search, navigation, design, and other features. Results show that the FUPRE website is deficient in a number of usability aspects (Ojugo&Otakore, 2018).

With a focus on the Federal University of Petroleum Resources Effurun (FUPRE), Ojugo and Eboka (2018) expanded the work of Ojugo and Otakore (2018) by examining the usability of some chosen Nigerian universities using expert review guidelines. They also compared the scores obtained in each criterion among the websites of the chosen universities. The end result displays the general advantages, disadvantages, special advantages, and special disadvantages of various institution websites. Some websites were discovered to have distinctive qualities that set them apart from others. The majority of university websites were effective in ensuring that their homepages and the part on trust and credibility obtained the highest ratings throughout their usability audit. As several of the websites did not even have the aforementioned crucial tasks in their web design, some of the sites struggled to provide adequate search usability, form, and data entry requirements. According to findings, even the top-ranked colleges' websites lag in a variety of website usability aspects (Ojugo& Eboka, 2018).

IV. METHOD

A. Selected Website

The College's present website only provides basic information about the institution and is static and fairly plain. The website lacks the interactive features found on current internet websites. More frequent updates in conjunction with academic and social activities at the College are not provided for. The absence of fundamental applications necessary for any academic institution to assert its present in the cyber sphere (such as an an e-library, a Learning Management System (LMS), a student portal, or a payment gateway) posses a challenge to the current website. Its less user-friendly interface for teaching and non-teaching personnel, visitors, potential and returning students is a serious cause of concern. The College website would however become more appealing and user-friendly to the various stakeholders if necessary changes are adopted and incorporated into the present application..

B. Sample Population and Data Gathering

The descriptive survey research methodology was used for the investigation. The study was conducted in the Oshimili South Local Government Area's Federal College of Education (Technical), Asaba. Students from five (5) Schools in the College made up the population. To remove prejudice, ten (10) kids were chosen at random from different grade levels and educational institutions. Seventy (150) students in all took part in the study.

After a thorough assessment of the literature, two sections of a questionnaire were created to gather pertinent data. The demographic information, such as department, gender, and level, was the main focus of Part 1. Part 2 included twelve (12) questions about participants' awareness of and usage of a college website and portal, as well as their willingness to support the use of the college site alternative for educational and informative purposes if properly updated. The response format and notional values of Strongly Agree (4), Agree (3), Disagree (2), and Strongly Disagree were used in Parts 1 and 2. (1).

The research questions were addressed using the means and standard deviations. A mean cut-off point of 2.50 and higher indicates approval, while 2.49 and lower indicates rejection, according to the decision rule. The category "Strongly Disagree" is defined as having a mean score of 2.49 or less, and the category "Strongly Agree" is defined as having a mean score of 2.5 or more. All negatively worded items were flipped for the purpose of data analysis so that a higher score on the Likert scale would indicate positive attitudes.

V. RESULTS AND DISCUSSION

A. Result Findings

Table 1 shows the results associated with the ease of use of the College website and portal by students. They were invited to rate their level of awareness on a Likert scale of 1 - 4, from ‘strongly disagree represented by the number (1) to ‘strongly agree’ represented by the number (4).

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S/N	ITEM	$\bar{X}$	SD	REMARK
1	I am aware the college has a website and portal and have accessed it	3.05	0.77	Strongly Agree
2	I think I would like to use the college website and portal frequently	2.72	0.81	Strongly Agree
3	I found the college website and portal unnecessarily complex	2.92	0.83	Strongly Agree
4	I would require the assistance of technical personnel to make good use of the college website and portal	3.26	0.75	Strongly Agree
5	I found the different submenus of the website and portal working harmoniously	2.43	1.01	Strongly Disagree
	Grand Mean & Standard Deviation	**2.88**	**0.83**	

Table 1: Mean and standard deviation of students' ease of use of the current College website and portal

It can be observed that participants were aware of the presence of a college and portal but sparingly interacted with them because both the site and portal were quite difficult to navigate. They would prefer the assistance of technical personnel to effectively make good both digital products. This was represented by an overall grand mean of **2.88** and a standard deviation of **0.83**.

Table 2 shows the mean and standard deviations of students' awareness of the limitations to the effective utilization of the current college website and portal.

S/N	ITEM	$\bar{X}$	SD	REMARK
6	The absence of a steady power supply on campus does not pose a difficulty to the use of the College site and portal	2.43	1.01	Strongly Disagree
7	The absence of a Campus Wi-Fi does not pose a difficulty to the use of the College site and portal	2.37	0.94	Strongly Disagree
8	Mobile devices such as laptops, tablets, smartphones, etc. with internet capabilities can serve as an alternate mode in the absence of campus Wi-Fi.	3.26	0.53	Strongly Agree
	Grand Mean & Standard Deviation	**2.69**	**0.26**	

Table 2: Mean and standard deviation of students' awareness of limitations to the effective utilization of the current college site and portal

The result in table 2 shows a grand mean and standard deviation of 2.69 and 0.26 respectively, it is obvious that most of the respondents are aware of the challenges that would impede the effective utilization of a remodeled site and portal. Apart from being aware of the limitations, they were also willing to make use of their laptops, tablets, and smartphones to constantly interact with a more responsive site that is easy to navigate. However, it is also worth noting that this idea is not a sustainable venture owing to the high cost of data and the absence of a relatively source of constant power supply.

Table 3 showed that the participants were willing to commit to the utilization of a more interactive and easy-to-use website and portal for academic and informative purposes respectively through personal effort provided there is a strong commitment by the government through the College management to provide the necessary equipment and infrastructure within a reasonable time frame. This was quite evident with a grand mean of 2.90 and a standard deviation of 0.04.

S/N	ITEM	$\bar{X}$	SD	REMARK
9	I will be willing to purchase data bundles intermittently to access an improved easy-to-use site and portal	2.74	0.64	Strongly Agree
10	I will encourage fellow students to do the same provided there are prospects to deploy a campus Wi-Fi in the nearest future	3.09	0.60	Strongly Agree
11	I will also encourage students to key into this new normal for their personal development and not to always wait on the government or College to provide the needed infrastructure.	3.15	0.59	Strongly Agree
12	I will be ready to encourage my union to engage with private firms and NGOs around the vicinity for the support of this course in terms of funds or equipment.	2.60	0.68	Strongly Agree
	Grand Mean & Standard Deviation	**2.90**	**0.04**	

Table 3: Mean and standard deviation of students' willingness to commit to the utilization of a more interactive and easy-to-use website and portal

A. Discussion of Findings

Research question one which is on the ease of use of the College website and portal revealed that students were aware presence of a college website and portal but the non-interactive and complicated nature of the site made it less attractive to interact with and visit frequently. Furthermore, the response to research question two indicates that the respondents were also aware of the present limitations to efficient utilization of a remodeled site and portal. This was reflected by an average mean score higher than the decision rule of 2.50. Lastly, the respondents' willingness to commit to optimal utilization of a remodeled and responsive upgrade was quite commendable as reflected in their grand mean and standard deviation respectively. Conclusively, the

researchers think that one of the best ways to increase students' participation and motivation for learning in the school environment is through the implementation of a blended learning system powered by campus Wi-Fi to complement the traditional pedagogical approach.

Also, a Blended Learning System is the most contemporary model in tertiary institutions globally in the post-COVID era we are currently in. Institutions of higher learning in our beloved country and Federal College of Education (Technical), Asaba by extension should adopt this approach to stay afloat and possibly thrive. Based on the findings of this study, the researchers recommend the following; the current website and portal of the College should be remodeled to become more interactive, conforming to the acceptable standard of a system usability rating. The Ministry of Education through its various intervention agencies should assist tertiary institutions through the sponsorship of the much-needed IT facilities for the full implementation of a blended learning system on campuses. The government and tertiary institutions should partner with the private sector and donor agencies within and outside their domain to provide internet connectivity to their institutions which should be made available to lecturers and students alike at a minimal or no cost at all.

Finally, the government should set up a supervision team to ensure that tertiary institutions adhere strictly to implementation guidelines, without cutting corners.

VI. CONCLUSION

Based on the findings, it can be seen that lecturers are highly aware of the blended learning system which has become the new normal in many parts of Nigeria since the outbreak of coronavirus disease (COVID-19). Many schools, especially big private schools adopted the online learning system to make sure that teaching and learning continue. Many Governments owned institutions including federal colleges are looking up to the government to provide the necessary facility for the implementation of the blended learning system. This study shows that the lecturers are ready to contribute their quota to ensure its implementation, though there are some areas that they will not be able to do much like power supply and provision of Wi-Fi.

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