

# Undergraduate Students' Assessment of E-Portals in Selected Private Universities in South-West Nigeria

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## ABSTRACT

Adoption of e-portals in the Nigerian higher education sector is a step in the right direction considering the potentials of the technology in connecting the university with students, potential students, staff, parents and the global community. Student assessment of the usefulness, ease of use and reliability of e-portals is however critical in determining the relevance and success of the technology. This study therefore surveyed undergraduate students' assessment of university portals in selected private universities in South-West Nigeria. The multistage sampling technique was used to randomly select 1244 undergraduate students from the faculties of Social-Sciences and Management and Science and Technology in the selected universities. Data was collected with a self-structured questionnaire and analyzed using descriptive statistics and chi-square. The findings showed that the portal is used mainly for information purposes and rarely for core academic activities such as accessing e-learning programs, lecture notes or library materials. The major challenge students face in using the portals was unstable internet connection. Information currency and accuracy is perceived to be low and some of the students had concern about the security of their transactions via the portal. Furthermore, over 50% of the respondents find the portals complex and needed technical assistance to use them effectively. The study therefore recommends that the university administration should provide more reliable internet service, ensure adequate user training and support services for students, regularly update the information on their portal and expand the usefulness of their portals to support core academic activities.

**Keywords:** Undergraduate students, e-portals, private universities, ease of use, usefulness, reliability.

## 1. INTRODUCTION

Higher education is one of the key sectors that have been transformed by the digital revolution, especially the internet. Most institutions of higher learning now carry out many of their academic and administrative functions including student admission, student registration, staff recruitment, program advertisement, course delivery and general administration via the university electronic portals or web-portals (Lim, 2004). According to Worjtkowski and Major (2005), a web portal is a collection of technologies that 'function together as a presentation tool to securely display corporate data, add to it information on the Internet, and customize and simplify access to that information'.

Educational portals have become major communication platform between universities and their students, prospective students, parents, faculty, staff, alumni and donors (Pierce, 2005, Hasan, 2013). They enable students to register online, upload and download course materials, access grades and campus bulletins, use email and search engines. Other capabilities of e-portals include unified login, personalization, document management, personal and group calendars, to do list and system security (Sharma and Gupta, 2005; Abuhamdieh and Sehwill, 2007).

Most academic institutions in Nigeria have invested substantially in creating institutional e-portals in order to take advantage of the possibilities that e-portals technology offers. The widespread adoption of the e-

portal technology by academic institutions has instigated research into the usability of web portals. This is due to the fact that most web site design efforts are focused on technology and business objectives rather than user needs. Usability is the extent to which users are able to use a product to achieve the desired goals with effectiveness, efficiency and satisfaction. It connotes understandability, learnability, operability and attractiveness (International Standard Organization, 1998; 2001). Usability assessment serves as feedback mechanism and can be used to enhance information systems to better meet users needs. Since students are the principal users of educational e-portals, this study was conducted to understand undergraduate students' assessment of the usability of e-portals in selected private universities in south-west Nigeria.

## 2. RESEARCH QUESTION

The study was conducted to answer the following research questions:

- how do undergraduate students' in the selected private universities assess their university e-portals in terms of ease of use
- how do the students' assess their university e-portals in terms of usefulness for academic tasks?
- what is students' assessment of the reliability of their university e-portal?.
- what challenges do students face while using their e-portals?
- is there a significant difference in e-portal evaluation by students from different universities?

### 3. RESEARCH HYPOTHESIS

H<sup>0</sup><sub>1</sub>: There is no significant difference in students' assessment of e-portals from different private universities in south-west Nigeria.

### 4. LITERATURE REVIEW

E-portal usability studies are conducted to determine the extent to which web portals meet the needs of end users. Like most studies on usability of information systems, studies on usability of e-portals are mostly based on Davis (1989) Technology Acceptance Model (TAM). The TAM has been found useful and reliable in explaining the reasons for user acceptance or rejection of information technology and the influence of user's attitude (Chen, Li and Li, 2011) hence; the present study is also based on the model. According to the TAM, people's use of information technology can be influenced directly or indirectly by their behavioral intentions, their attitude as well as usability variables namely, Perceived Usefulness (PU) and Perceived Ease of Use (PEU) of the system. Perceived Ease of Use is "the degree to which a person believes that using a particular information system would be free of effort" while Perceived Usefulness describes "the degree to which a person believes that using a particular information system would enhance his or her job performance" (Chen, Li and Li, 2011).

Various approaches have been used in carrying out the few studies that are available on e-portal usability. While some studies used automated tools (Zaphiris and Ellis, 2001), others used user surveys (Adepoju and Osofisan, 2008) and still others, a combination of the two (Okene and Erukpere, 2011). One notable feature of usability studies however, is the lack of uniformity in the usability criteria. Criteria such as quality of content in terms of clarity, comprehensiveness and currency, accessibility of the system, navigation, consistency of design, download time, attractiveness, reliability and simplicity have been used to evaluate e-portal usability (Pierce, 2005; McKinney; Yoon and Zahedi, 2002).

Zaphiris and Ellis (2001) conducted a study to assess the usability and accessibility of top fifty Universities in the U.S. using automatic evaluation tools. Their findings indicate low accessibility and usability rating for the all the websites. Also, Cappel and Huang (2007) reported that most of the INC. 500 company websites they evaluated did not conform with standard usability guidelines especially in terms of navigation. Astani and Elhindi (2008) assessed the websites of the top 50 American university and reported that although most of the websites were rated highly in terms of their access speed and information content, they were rated less than 4 out of 5 scales in terms of the currency and organization of the information, ease of navigation, customization and security.

Abuhandieh and Sehwal (2007) compared student and faculty's perception of the ease of use and usefulness of their university portal and found differences with students indicating rating of usefulness and ease of

use. Also, communication features such as emails, announcement and the Black Board modules were used more than other features on the portal among students. Among the challenges they reported were accessibility or log in difficulties, short time-out period and absence of certain desired features. Similarly, Bringula and Basa (2011) found that availability of web portal got the lowest rating among faculty users indicating a challenge with accessibility. Aesthetics, information content, structure and organization were however moderately acceptable. The study concluded that information content was the only significant predictor of web portal usability from the faculty's perspectives. Mentis and Turan (2012) assessed the usability of the web site of Namık Kemal University, Turkey, using attractiveness, controllability, helpfulness, efficiency and learnability. They reported a positive relationship between attractiveness, helpfulness, learnability, efficiency and usability perception of website but a negative relationship with controllability.

In Nigeria, Adepoju and Osofisan (2008) carried out a study to determine the effectiveness, efficiency and user satisfaction with the websites of three federal universities of technology. Their findings showed that only one of the websites satisfied the effectiveness and efficiency criteria. Also, Olalekan and Adepoju (2012) evaluated the usability of twenty-five indigenous web sites in Nigeria. Their findings, showed that the usability index of the websites ranged between 65 to 84 percent which falls below the recommended 90-100 percent usability index. On the contrary, Tella and Bashorun (2012) reported a high level of satisfaction among undergraduate users of the University of Ilorin with respect to information quality, system quality, and ease of use of the e-portal.

### 5. METHODOLOGY

This study was a survey carried out among undergraduate students of three private universities in south-west Nigeria. The three universities were established between 1999-2002 and also have functional web portals. The universities are Babcock University, Covenant University and Bowen University. The first two are located in Ogun state while the latter is located in Osun state. The total population of students in these universities at the time of study (2013) was 29,990. The multi-stage technique was used for this study in order to have a representative sample. First, the faculties of social sciences/management and science and technology were randomly selected from Universities. Then, the departments of business administration and mass communication were selected from the faculty of social sciences/management while the departments of computer science and Bio-chemistry were selected from the faculty of science and technology. Finally, 20% of the students in each department within the two faculties were randomly selected as respondents for this study. This gave a total of 1,244 respondents. A structured questionnaire designed by the respondents was used to collect data for the study. The data was analyzed using frequency and percentage

distribution, mean, Kreskas-Wallis and chi-square. A total of 1,099 questionnaires were retrieved (88.3%).

## 6. RESULTS

**Table 1:** Demographic Characteristics of Respondents

Demographic Characteristics	Categories	Frequency	Percentage (%)
Institution	Covenant	396	36.0
	Bowen	381	34.7
	Babcock	322	29.3
Gender	Female	616	56.1
	Male	483	43.9
Age	Below 20	110	19.6
	21-25	145	25.8
	26-29	306	54.5
	30 and above	32	2.9
Department	Business administration	505	46
	Bio-chemistry	287	26.1
	Mass communication	168	15.3
	Computer Science	139	12.6

Table 1 shows the frequency and percentage distribution of respondents by institution, age, gender, and department. The result shows that Covenant University had the highest number of respondents (396, 36.0%).

More than 45% (255) of the respondents were below 25 years and most were female (616, 56.1%). Majority of the respondents were from Business Administration department (505, 46%).

**Table 2:** Assessment of the usefulness of University E-portals

S/N	Usefulness of e-portal	Agree	Uncertain	Disagree
1	I use my school portal to apply for admission	985 (89.6%)	44 (4%)	70 (6.4%)
2	Learn about the institution history	859(78.2%)	164(14.9%)	76(6.9%)
3	I have access to my school calendar through the portal	784(71.3%)	164(24.9%)	151(13.7%)
4	Career opportunities	778(70.8%)	245(22.3%)	76(6.9%)
5	I register my courses using my school portal	632(57.5%)	378(34.4%)	89(8.1%)
6	I use my school portal to pay necessary fees	629(57.2%)	306(27.8%)	164(14.9%)
7	I can use my school portal to source of search information	590(53.7%)	433(39.4%)	76(6.9%)
8	My school portal is used for e-learning	423(38.6%)	470(42.8%)	206(8.1%)
9	I receive some of my lectures through the use of my school portal	390(35.5%)	358(32.6%)	351(31.9%)
10	I use portal to interact with my lectures, colleagues	358(32.6%)	162(14.7%)	579(52.7%)
11	I can access my school library catalogue through the portal	282(25.7%)	518(47.1%)	299(27.2%)
12	I make use of the portal to download lecture notes	151(13.7%)	737(67.1%)	211(19.2%)

Table 2 above shows the distribution of the students' assessment of usefulness of their university e-portals. Usefulness here refers to what the students can do

through their university portals. The result shows that most of the respondents use their university portals to apply for admission (985, 89.6%). More than 70% use

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them to find information related to institutional history, university calendar and career opportunity. Over 50% are able to register courses, pay their school fees and find relevant information through their portals. Few (<40%) however agreed that they use their portals for academic activities such as e-learning, accessing library

catalogue, interacting with lecturers and colleagues and downloading of lecture notes. This shows that the university portals are not being optimized for academic activities, hence their usefulness is still very limited.

**Table 3:** Assessment of the Ease of Use of University E-Portals

S/N	Ease of Use of University E-Portal	Agreed	Uncertain	Disagree
1	My university portal has a simple layout of contents	759(69.1%)	201(18.3%)	139(12.6%)
2	I need technical assistance to be able to use the portal	754(68.6%)	251(22.8%)	94(8.6%)
3	Terminologies/terms are easy to understand	671(61.1%)	322(29.3%)	106(9.6%)
4	It is easy for me to remember how to perform tasks using the web portal	669(60.9%)	417(37.9%)	13(1.2%)
5	The various functions on my school portal site are well integrated	646(58.8%)	333(30.3%)	120(10.9%)
6	My school portal site is very cumbersome to use	570(51.9%)	380(34.6%)	149(13.6%)
7	Interacting with my school portal is clear and understandable	570(51.9%)	415(37.8%)	114(10.4%)
8	I find it easy to use the university portal for various functions.	561(51%)	391(35.6%)	147(13.4%)
9	The portal is complex to use	555(50.5%)	421(38.3%)	123(11.2%)
10	It is easy to navigate between the web portal pages	536(48.8%)	389(35.6%)	174(15.8%)
11	Effective technical support is available for users	472(42.9%)	405(36.9%)	222(20.2%)
12	I was given adequate training on how to use the portal	327(29.8%)	164(14.9%)	608(55.3%)

From the results on table 3, about 70% (759) of the respondents agreed that their university portals have simple layout of content and more than 60% consider the terminologies easy to understand and the process easy to remember. However, 570 (51.9%) of the respondents think the portal site is very cumbersome to use while 754 (68.6%) agreed that they need the assistance of a technical person to use the portal. Only 327 (29.8%) said they were

given adequate training on how to use the portal (327, 29.8%). This result implies that although most of the students can use their university portals with ease, a considerable number still have difficulties using them. This is probably due to the fact that they were not trained on how to use the system effectively or that the students are not aware that technical support is available.

**Table 4:** Assessment of the Reliability of University E-portals

S/N	Reliability of University E-portal	Agree	Uncertain	Disagree
1	Content is free from grammatical errors	992(90.3%)	44(4%)	63(5.7%)
2	My school information on its portal site is clear	923(84%)	176(16%)	-
3	My grades are kept confidential	710(64.6%)	237(21.6%)	152(13.8%)
4	Information about financial transaction on my portal is clear	686(62.4%)	281(25.6%)	132(12%)
5	The e-portal site is very fast and accessible 24hrs	587(53.4%)	202(18.4%)	310(28.2%)
6	Paying online is safer for me	528(49.1%)	362(32.9%)	209(19%)
7	I feel secure to perform various tasks on my school web portal	494(44.9%)	454(41.3%)	151(13.7%)

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8	The information on the portal is always accurate	477(43.4%)	504(45.9%)	118(10.7%)
9	Information is up-to-date & current	308(28%)	372(33.8%)	300(27.3%)

Result on table 4 shows the views of the respondents on the reliability of their university portal. Majority of the respondents agreed that the information on their university portals is free from grammatical errors (90.3%) and is stated in clear terms (84%). Seven hundred and ten (64.6%) are sure that their grades are kept confidential on the e-portal and 686 (62.4%) agreed that information about financial transaction is clearly stated.

More than half of the respondents (53.4%) consider their e-portals to be fast and accessible 24 hours. With respect to security of e-portals, less than half of the respondents feel safe making payments and performing other activities via their e-portals. Similarly, (308, 28%) only a few agreed that information on portal is always accurate (43.4%) and up to date and current (28%).

**Table 5:** Challenges of Using E-portals

S/N	Challenges	Frequency	Percentage%
1	Unstable internet connectivity makes my activities on the portal difficult	991	90.2
2	Login on my school portal is difficult	463	42.1
3	Information on my school portal is not always correct	388	35.3
4	Portal is complex to operate	330	30
5	My school does not have functional internet access points	286	26
6	There is no constant power supply in my school	260	23.7

The table 5 above reveals challenges often faced by students using e-portals. Majority (991, 90.2%) of the respondents agreed that unstable internet connectivity is the most common challenge they face in using e-portal. Other challenges experienced by students are log in difficulty, inaccurate information and for a few students, portal complexity. However, only few students (<30%) said they have challenges with internet access point and power supply.

**Table 6:** Mean Ranking of Students' Assessment of University Websites

S/N	Institution	Frequency	Mean Rank
1	Bowen University	381	572.50
2	Babcock University	322	563.14
3	Covenant University	396	517.67

A critical inspection of the mean ranks of the universities suggests some differences in assessment of e-portals among students from different universities. From the result, Bowen University had the highest mean rank (572.50), followed by Babcock University (563.14) and Covenant University (517.67).

## 7. HYPOTHESIS TESTING

The Chi-square test was conducted to determine the significance of the differences in students' assessment of e-portals. The results as presented on table 6 shows a significant difference in the assessment of e-portals among students from different universities ( $P < 0.05$ ). Therefore, the null hypothesis was rejected.

**Table 6.1:** Chi-square Analysis to Determine Differences in Students' Assessment of E-portals

E-portal Assessment	$X^2$	Df	Asymp. Sig.
	11.634	2	.003

## 8. DISCUSSION OF FINDINGS

This study examined undergraduate students' assessment of the usefulness, ease of use, and reliability of their university portals. With respect to usefulness of the portals, the findings showed that most of the students (>70%) use their university portals to access their school calendar, register courses and learn their institutional history. Whereas, less than 40% used them for core academic activities such as e-learning, downloading of course materials, accessing library catalogues and interacting with lecturers. This shows that most of the university web portals under study serve the informational purposes very well but might not be adapted to support core academic activities. This finding affirms that of Abuhamdiah and Sehwal (2007) that facilities that enable information access and sharing such as emails, announcement and the Black Board modules were the most used portal features among the students they studied. The finding is not surprising considering that e-portal is a recent innovation in Nigerian universities, hence they are less likely to have incorporated academic programs into their portals.

In terms of ease of use, more than half the respondents agreed that their portal is complex to use, that navigation between web pages is difficult and that they require technical assistance to use the portal. This finding agrees with that of Astani and Elhindi (2008). It is apparent from the high response (>50%) that students lack adequate training and user support services that can enable them use the portal effectively. Lack of training

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and technical support are factors that can negatively influence users' perception of information systems (Looney & Lyman, 2000). The findings further reveal that in terms of reliability, most of the respondents agreed that their portals are free from grammatical errors and that the information is clear however, they have challenges with information security, accuracy and currency. This finding contradicts that of Sander Spek and Jaap vanden Herik (2007); it however corroborates the findings of Astani and Elhindi (2008) that most of the websites studied were rated poorly by users in terms of the information currency, ease of navigation, customization and security even though they got high ratings for access speed and information content.

The findings also indicate that low poor internet service is the most challenging problem that hinders undergraduates' use of university portals in South-West Nigeria. The finding is in line with the findings of Abuhamdieh and Sehwal (2007), Bringula and Basa (2011) and it confirms Liu (2005)'s conclusion that the speed of internet service is a major constraint to effective use of ICTs in developing countries. Finally, findings from this study reveal a significant difference in the assessment of e-portals among students from different universities. The result from the Chi square analysis shows that of the three universities under study, Bowen University had the highest mean (572.50) while Covenant University had the least (517.6) in overall rating of portal usability.

## 9. CONCLUSION AND RECOMMENDATION

E-portal usability is critical to webometric ranking of universities and university ranking contributes to ability of higher institutions to attract quality students. For private universities in Nigeria, ability to compete favourably, both locally and internationally is essential for their sustainability. Therefore, it is imperative that private universities in Nigeria pay close attention to usability of their web portals by:

- a. increasing their bandwidth to provide speedy and reliable internet service on their campuses,
- b. ensuring adequate training and user support services for students rather than assuming that students are deft with technologies
- c. regularly updating the information on their portals
- d. addressing the navigation and security problems of their portals in order to reduce the frustration that students experience with the system and
- e. expanding the usefulness of their portals to support core academic activities as this would not only justify the investment in the technology but also increase students patronage.

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