

Undergraduates' Perceptions of the Usefulness of Smartphones in Accessing Electronic Resources in Academic Libraries

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Abstract

This study is designed to determine the respondents' perceptions of the usefulness of smartphones in accessing e-resources in academic libraries. Three specific objectives and three corresponding research questions guided the study. It was used a cross-sectional survey design for the study and the area of the study was Bauchi State University. The population of the study consisted of 947 undergraduates during the 2021/2022 academic session. Simple random sampling was used to determine the sample size of the study which arrived at three hundred and eighty-three (383) respondents. Structured questionnaires were used and collected data for this study. The data collected were coded and entered into SPSS for analysis. The findings revealed that there are no significant differences in the undergraduates' perceptions of the usefulness of smartphones in accessing electronic resources between male and female respondents as well as among Levels One, Two, and Three respondents respectively. Thus, the two null hypotheses were accepted at the level of (<0.5). Females had higher means scores when compared with their male counterparts in terms of their perceptions of the usefulness of smartphones in accessing e-resources at the academic library. Based on the respondents' verbatim comments the majority of the respondents perceived the comfort of the use of smartphones in accessing e-resources for their coursework, assignments, and research in the academic library studied.

Keywords: E-resources, Gender, Smartphones, and undergraduates

Introduction

A smartphone simply means a phone that has an internet facility to allow the owner to visit the internet. According to Sad et al. (2022) smartphones have now become a universal instrument not only for communication but for information retrieval, since they contain a variety of devices (e.g., internet) that can determine their location, direction, climatological conditions, and many more. Smartphones are mobile phones with computers and internet things that allow search capabilities and storage facilities, which only differ from computers by size and mobility (Anh, 2016 cited in Matheus, 2021). The smartphone is debatably one of the most useful high-tech to be introduced into civilization and interestingly for education, social and information benefits.

Moreover, smartphones are recognized as the most powerful, as well as multifunctional device that includes advanced micro-sensors that were unimaginable anywhere other than in science fiction media, (Hartley & Andujar, 2022). In the 21st century, computers and smartphones play major roles in academic environments (Matheus, 2021). Due to accessibility of the smartphones among students for different purposes, there is a need to investigate undergraduate students' perceptions of the usefulness of smartphones in accessing e-resources.

It was observed that smartphones are one of the most useful devices in society globally. It is noted that smartphone users have an interest in browsing information for their leisure and other information and educational activities. Farhat et al. (2022) examined the compulsive use of smartphones among students in Asia and it was discovered that smartphone users tend to develop self-control that benefits their knowledge. This contrasts with the study of Tan et al. (2022) that explored the psychological factors of smartphone addiction among Muslim university undergraduates in Malaysia and they found that smartphone addiction is a significant predictor of students' neglect of studies.

According to Matheus (2021), the University of Namibia created a mobile Library Application for accessing e-resources to allow students to have access to e-resources. This development will help their library users have better access to electronic resources. Thus, with the adoption of technologies, academic libraries are abreast and eager to help their users on how to use the library resources and services not necessarily in the library environment. This and many more emancipate the researchers to investigate the undergraduate students' perceptions of the usefulness of smartphones in accessing electronic resources in the library. Hence, this study intends to discuss the respondents' perceptions of the usefulness of smartphones in accessing information resources at Bauchi State University Library, Gadau.

Research Objectives

The objectives of this study are as follows:

1. To determine the undergraduates' perceptions of the usefulness of smartphones in accessing electronic resources between male and female students of the Department of Library and Information Science at Bauchi State University Gadau.
2. To determine the undergraduates' perceptions of the usefulness of smartphones in accessing electronic resources among Level one, two, and three students of the Department of Library and Information Science in Bauchi State University Gadau.
3. To examine the respondents' verbatim comments and suggestions of their perceptions and the usefulness of smartphones in accessing e-resources.

Research Questions

This study answered the following research questions:

1. Are there any differences between undergraduates' perceptions of the usefulness of smartphones in accessing electronic resources between male and female students of the Department of Library and Information Science at Bauchi State University Gadau?
2. Are there any differences between undergraduates' perceptions of the usefulness of smartphones in accessing electronic resources among Levels one, two, and three students of the Department of Library and Information Science at Bauchi State University Gadau?
3. What are the respondents' verbatim comments and suggestions regarding their perceptions and the usefulness of smartphones in accessing e-resources in the library?

Null Hypotheses

This study provides two (2) null hypotheses based on the aforementioned objectives:

1. There is no statistically significant mean differences in the undergraduates' perceptions of the usefulness of smartphones in accessing electronic resources between male and female students of the Department of Library and Information Science at Bauchi State University Gadau.
2. There is no statistically significant mean differences in the undergraduates' perceptions of the usefulness of smartphones in accessing electronic resources among Levels one, two, and three students of the Department of Library and Information Science at Bauchi State University Gadau.

Research Conceptual Model

The conceptual framework for this study is schematically represented in Figure 1.1. With this framework, the researchers examined the differences between the perceived usefulness of smartphones in accessing e-resources among students' gender and level of study. Both independent and dependent variables are indicated within a circle symbol. The following conceptual framework does not have statistically significant differences in answering the research questions and as well as testing the hypotheses based on the objectives of the study.

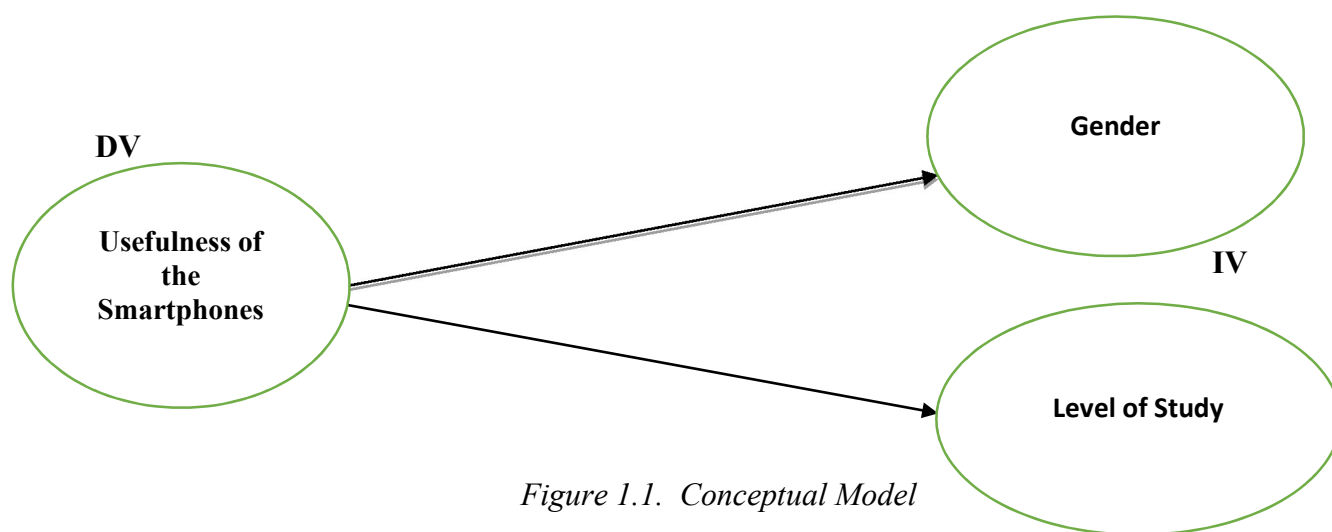


Figure 1.1. Conceptual Model

Research Methodology

Research Design

This study is a purely quantitative research method that determined the undergraduate students' perceptions and the usefulness of smartphones in accessing electronic resources in the Bauchi State University Gadau library. The study used a cross-section survey design to access and collect the data of this study at a point and in time using a self-administered questionnaire. This design is suitable for this study considering the study population. According to Mohammed and Zainab (2019) as cited in Neuman (2007) a cross-sectional survey design is a type of research design which examines a group of people (respondents) at a single point in time.

Population and Sampling Techniques

The populations of the study are Students of the Department of Library and Information Science, Bauchi State University. The reason for choosing them is easier for the researchers to meet them at one point to administer the questionnaire. It was observed that the students of Library and Information Science make good use of smartphones considering the training given to them by the department. The total population of the study is nine hundred and forty-seven (947) undergraduates of the Department of Library and Information Science during the 2021/2022 academic sessions. The random sampling technique was adopted in this study. According to Salkind (2009), is a "very common technique where each member of the population has an equal opportunity to select and participate in the study." The sample size of three hundred and eighty-three (383) according to Adam (2020) sample size determination (99% confidence level) was used and arrived at the sample size.

Data Analysis

The data for this study were generated from a three hundred and eighty-three (383) sample size using a self-administered questionnaire and three hundred and seventy-three (373) were successfully completed and returned to the questionnaires. The data collected were coded and entered into SPSS for analysis.

Data Analysis and Interpretation

Parametric Test

Parametric tests were employed to test the two (2) null hypotheses formulated in this study. The statistical tests were an independent sample t-test and a One-way Analysis of Variance (ANOVA) test. The reason for running the parametric test was based on the normality test of the dependent variable on the antecedent variables (i.e., gender and age) of this study.

Null hypothesis

There is no statistically significant mean differences in the undergraduates' perceptions of the usefulness of smartphones in accessing electronic resources between male and female students of the Department of Library and Information Science at Bauchi State University Gadau.

Table 1.1: Gender and the use of smartphones in accessing e-resources

Gender	N	Mean	SD	T	Df	Sig.
				-.201	371	.840
Male	200	12.3950	2.25709			
Female	173	12.4451	2.50665			

The results of running an independent test revealed no statistically significant mean difference existed $t_{(371)} = -.201, p > .05$ among male respondents ($M = 12.3950$, $SD = 2.25709$) and female respondents ($M = 12.4451$, $SD = 2.50665$) concerning their scores of the usefulness of smartphones in accessing e-resources. (See Table 1.1).

Null hypothesis

There is no statistically significant mean differences in the undergraduates' perceptions of the usefulness of smartphones in accessing electronic resources among Levels one, two, and three students of the Department of Library and Information Science at Bauchi State University Gadau.

Table 1.2 Level of study and the use of smartphone in accessing e-resources

Level of Study	N	Mean	SD	Df	F	Sig.
				2	62.103	.000
Level One	66	12.2879	1.89346	370		
Level Two	93	10.4624	2.51327			
Level Three	214	13.3084	1.88102			
Total	373	12.4182	2.37299			

The results of running a One-way ANOVA test with students' level of study as the independent of the perceived comfort of using smartphones to access e-resources. However, the results of running a One-way ANOVA test revealed that there is a significant mean difference existed, $F(2,370) = 62.103, p < .05$ between Level One ($M = 12.2879$, $SD = 1.89346$), Level Two ($M = 10.4624$, $SD = 2.51327$), and Level Three ($M = 13.3084$, $SD = 1.88102$) concerning their scores of the usefulness of smartphones in accessing e-resources at Bauchi State University Gadau library. (See Table 1.2).

Respondents' verbatim comments or suggestions on the perceptions and the usage of smartphones in accessing e-resources in the library:

The following findings are from an open-ended question posed to the respondents that requested them to suggest and comment on their perceptions and usage of smartphones in accessing e-resources in the library. Below are the verbatim comments received from the respondents.

1. General comments related to students' perceptions and usage of smartphone in accessing e-resources:

- i. I am feeling satisfied but the library did not fit to share their internet with my smartphone.
- ii. Satisfactory to the extent that no need for me to wait for a computer in the library since my network allows me to access the e-resources
- iii. I feel okay when using my smartphone to access e-resources.
- iv. Using smartphones to access e-resources is useful especially for students to save their e-resources.
- v. Using a smartphone to access online resources is very good, especially for newly admitted students.
- vi. Keep up the good work library/librarians for making e-resources available.
- vii. So far using a smartphone is fine.
- viii. Good.
- ix. Using a smartphone is very useful to me because I learned a lot regarding information searching.
- x. Using smartphones for information searching is much more interactive.
- xi. Is so nice for me to use my smartphone whenever I want to access information.
- xii. It is useful to a certain extent whenever I use a smartphone.
- xiii. More attractive to use smartphones to access e-resources.
- xiv. Using smartphone method is Okay.
- xv. It improved my intelligence as well.
- xvi. It helps me improve my search skills.
- xvii. The library should help students by allowing them to use the internet.
- xviii. We found it comfortable to use smartphones and access information related to our assignment.
- xix. It is comfort about how to search for information using smartphones.
- xx. More data need to be given to the students to use their smartphones for accessing e-resources. Most users experienced shortage of data to enable them to download e-resources.

2. Comments related to searching for information using smartphones:

- i. I find searching e-journals very easy and attractive when there is efficient internet services.
- ii. I don't practically form a search term but knowing too is okay.
- iii. I am enjoying when I am searching e-journals whether using smartphone or computer.
- iv. Display functions are not user-friendly sometime using smartphones.
- v. I found searching e-journals from the databases very difficult using smartphones.
- vi. Using a smartphone is effective for me when I am searching for information resources but it takes me a long time before I got the information resources.
- vii. The smartphone is useful, it helps me access e-resources.
- viii. I prepare to use Google to search for information using my smartphone.
- ix. Searching for information resources using smartphones is one of my problems initially.

Out of three hundred and seventy-three (373) respondents, only twenty-nine (29) participants commented and suggested two related captions. Twenty participants responded in the questionnaire saying 'they are comfortable when using smartphones to access e-resources in the library', while nine (9) respondents commented on searching information resources using smartphones and their comments indicated that they were very interested and happy whenever they are using smartphones in accessing e-resources. Based on the objective of this study related to the undergraduates' perceptions of the usefulness of smartphones in accessing e-resources, it was discovered that this study is paramount to undergraduate students who are eager to access information resources for their coursework, assignments and research.

However, a large portion of the respondents have their smartphones and they are using them to access information resources in the library only that they have to use their own data to get internet services for accessing e-resources. It is requested that library management need to provide free internet services to registered users of the library. This will attract more users who can use their smartphones to access e-resources in the library.

Conclusions

This paper discussed the undergraduates' perceptions of the usage of smartphones to access electronic information resources in the academic library. The study discovered that female respondents have higher means in terms of the usefulness of smartphones in accessing e-resources when compare with their male counterparts. This may be because the female students are more addicted to their smartphones and they are always ready to use them whenever the need arises.

Again, the study revealed that level three students use their smartphones more frequently when compared with level one and two students. Fortunately, the entire respondents perceived the usefulness of smartphones in accessing e-resources for their coursework, assignments, and research in the academic library under study. The future study will focus on undergraduates' satisfaction with the usage of smartphones to access available information resources on the websites and the library databases.

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