

# Determinants of Electronic Library Resources Access in Saudi Arabia Higher Institutions

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## ABSTRACT

Electronic library resources are believed to be recent development in the world of internet. However, access to electronic library resources appears to be lacking, and thus has become a major issue of concern among electronic libraries resources users, particularly the students. As a result, this study investigates the determinants of electronic library resources access in Saudi Arabia higher institutions. Specifically, it examined the relationship between two key variables and electronic library resources among the students of Imam Mohammad Ibn Saud Islamic University. Cross-sectional survey forms the research design while the population of the study covered all the students in Imam Mohammad Ibn Saud Islamic University. The sample size was determined using the formula by Tabachnick and Fidell (2001) with a sample of 128. The data collection was conducted using email procedure while the collected quantitative data was analysed using both correlation and regression analysis techniques. The findings revealed that the relationship between electronic library resources availability and electronic library resources access is statistically significant. Also, the finding shows that ease of use is statistically related to electronic library resources access among the students in higher institution. Therefore, the study concludes that electronic library resources availability significantly affects electronic library resources access among the students. Secondly, it is concluded that ease of use has a lot of impacts on the electronic library resources access among the students. The study offers several implications and suggestions for future studies.

## KEYWORDS

Access, Determinants, Electronic Library Resources, Higher Institutions, Saudi Arabia

## 1. INTRODUCTION

Electronic library resources are believed to be recent development in the world of internet and ever-changing technological world today. This was also acknowledged by Oshilalu (2011); Mawere and Sai (2018) when they noted that e-library resource is a modern phenomenon but however, possess a great threat particularly to the users. The studies further observed that the emergence of electronic library resources is a true reflection of growth of library materials that is committed to meeting users' information needs within the shortest possible means of all type. However, access to electronic library

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resources appears to be lacking, and thus has become a major issue of concern among electronic libraries resources users particularly the students (Okogwu & Mole, 2019; Oshilalu, 2011).

The importance of electronic library resources cannot be undermined in the present knowledge economy. For example, it has become an indispensable aspect of learning in the higher institutions including research institutions such as the university. Mawere and Sai (2018) states that e-library resources are invaluable tools for studying, learning and researching. In fact, with e-library resources, students are more empowered and capacitated to not only learn more but also study at their own pace by accessing these resources. Additionally, electronic resources, such as e-journals and online databases, now have an edge over the traditional print-based media as they are most likely to contain current information, offer advanced search capabilities, greater flexibility in storage and enable access of information without time and location constraints.

Despite the importance of electronic library resources, accessing electronic library resources is observed to be a major issue of concerned particularly in many developing countries such as Saudi Arabia. For example, the recent study by Okogwu and Mole (2019) revealed that there is difficulty in accessing e-library resources among the e-library users in university libraries across the globe. The study claimed that postgraduate library users in university libraries in developing countries find it very challenging to access e-library resources. However, the study is descriptive in nature, meaning that cannot predict relationships among the variables under investigation. Therefore, there is a need for studies to determine those key factors that affect electronic library resources access among students while checking for their relationship.

Furthermore, research studies have identified a number of factors that affect electronic library resources among students. For example, Mawere and Sai (2018) advocated for availability of information in electronic format in order to facilitate easier indexing and searching thus simplifies students' lives in accessing relevant information. Also, the earlier study by C Tenopir, Hitchcock, and Pillow (2003) argued that electronic resources would be most readily adopted and possibly accessed if the sources are perceived as convenient, relevant, and time saving to their natural workflow. However, internet connectivity, struggle with information overload, irregular power supply, loss of access to the content due to cancellation of subscription, and e-resources contribute to the non-availability of e-resources relevant to my information needs are problems to e-library resources access (Oshilalu, 2011). Okogwu and Mole (2019) claimed lack of perpetual access to electronic resources and the complicated nature of e-resources ranked high among other factors that affect to use are two the library's electronic resources access. Thus, there is a need to avert the loss of access to electronic resources. However, two major variables tend to be excluded. For example, ease of use and availability are assumed to have a strong correlation with electronic library resources access. Okogwu and Mole (2019) pointed out that electronic library resources access in the developing appears to be complicated. In other words, there is no ease of use. Due to this, students find it difficult to access electronic library resources. Also, in some cases, the electronic library resources are not readily available for use by the students.

Another major weakness of the previous studies on e-library resources is that of focus. For example, while some e.g. (Mawere & Sai, 2018; Oshilalu, 2011; Carol Tenopir, 2003) of them focused on usage of e-library resources, intention to use e-library resources, behaviours and preference of e-library resources users, others talked about e-library resources services and e-resource utilization. In fact, the only study attempts to find its root to the present study was that of Okogwu and Mole (2019). However, the study only examined the difficulties of accessing e-library resources and not the relationship between e-library resources and other variables such as e-library resources availability and ease of use. Besides, the study was descriptive in nature and could not establish empirical relationship between predictor variables and e-library resources. The present study therefore bridges this gap by investigating the relationship between e-library resources availability, ease of use and e-library resources access. Specially, it examines the relationship among e-library resources availability, ease of use and e-library resources access among students in Imam Mohammad Ibn Saud Islamic University.

## 2. LITERATURE REVIEW

### 2.1 Linking Availability, Ease of Use and Electronic Library Resources Access

The study by Okogwu and Mole (2019) actually looked into some of the difficulties affecting the accessing of electronic resources among postgraduate library users in university libraries in Southeast Nigeria. The study being descriptive was able to find that absence of perpetual access, internet connectivity, non-availability of relevant e-resources, e-resources complicated to use among others are the difficulties against accessing electronic resources among postgraduate library users in university libraries. 2509 respondents formed the population of the study while 251 participants formed the sample size. These were drawn from both state and federal universities in the Southeast Nigeria. It employed both Southeast Nigeria and structured questionnaire to obtain data from the respondents.

Mawere and Sai (2018) examined e-resource utilisation among university students in a developing country with particular interest in Great Zimbabwe University. Its major objective is to investigate the adoption and utilisation of e-resources by students at a university in a developing country. The study utilised survey questionnaire design. Data collection was conducted via social media platforms such as Facebook and WhatsApp. The quantitative data collected was analysed using Chi-squared test while the qualitative data was analysed via thematic approach. The finding revealed that inter alia, poor marketing strategies, lack of resources among the students and exorbitant data charges by Internet Service Providers (ISPs) hindering e-resource utilisation among university students. This only focused on e-resources utilization but not access to e-library resources which is a major concern to the present study.

The study by Umukoro and Tiamiyu (2017) focused on the determinants of e-library services' use among university students. Thus, the study is concerned with e-library services' use rather than e-library sources access. Apart from investigating the factors that determine students' use of and satisfaction with the e-services, it specifically looks into user satisfaction with their e-services. It adopted both quantitative and qualitative, which involved a multistage sampling technique. Out of the 400 respondents sampled in the study, only 382 responses were validated. The survey questionnaire data collected and analysed shows that among others infrastructures including inadequate Internet access and unreliable campus network were part of the determinants of e-library services' use among university students.

Joo and Choi (2015) investigated the factors that affect undergraduates' selection of online library resources in academic tasks: Usefulness, ease-of-use, resource quality, and individual differences. Its major purpose was to explore multiple factors affecting online library resource selection by undergraduate students. The study explored three major factors namely; usefulness and ease-of-use, resource quality, and individual differences. It adopted a questionnaire instrument approach which was used to measure various aspect factors and online library resource use intention. It utilised 332 undergraduate students from which data was collected. The collected was analysed quantitatively using structural equation modeling, ANOVA, and *t*-tests. The findings revealed that both usefulness and ease-of-use positively significant and positively affect undergraduates' use intention of online library resources. Further finding shows that five variables such as accessibility, credibility, coverage, currency, and format determine online library resources use intention. It was equally reported that the effect of accessibility was the strongest, while that of credibility was the weakest. Besides this, familiarity with sources and use of good search skills had a significant effect on users' use intention at the individual user level. This study only focused on the intention to use, however, the present study examined the actual use of e-library resources. Apart that, there is a clear distinction between online library resources and e-library resources.

A similar study of questionnaire-based survey by Habiba and Chowdhury (2012) on the use of electronic resources and its impact on Dhaka University library users found that many of the Dhaka University library users actually used it for learning purpose. The study also found that users are

generally satisfied with e-resources. Besides, infrastructure facilities and training programme are equally found important in the use of electronic resources.

C Tenopir et al. (2003) attempt to analyse 200 recent publications in order to determine the use and users of electronic library resources, and for this purpose, the study employed different various research methods such as observation, surveys, interviews, experiments, and transaction log analysis. Studies analysed were categorised as Tier 1 studies and Tier 2. It was found among others that students use and like electronic library resources. Also, experts in different subject disciplines (work fields) have different usage patterns and preferences for print or electronic.

To ascertain how information literacy skills, affect the use of e-library resources, Ekong and Ekong (2018) examined the impact of information literacy on the use of e-library resources among tertiary institution students in Akwa Ibom State, Nigeria. Using a total of 500 questionnaires and ANOVA technique, it found that the quality and volume of academic work is largely influenced by the knowledge and skills possessed in the use of e-library resources. In a related development, Salubi, Ondari-Okemwa, and Nekhwevha (2018) examined the fact and fiction in utilization of library information resources among generation students. A total of 390 respondents were surveyed at the Nelson Mandela University and the University of Fort Hare using both quantitative and qualitative methods. Among others, the study revealed that most of the respondents, 82.3%, were aged between 18 and 23 years; while the average library use time was two hours daily.

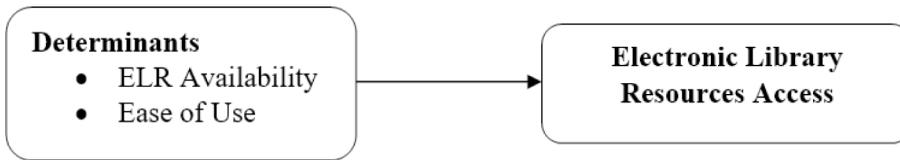
Also, there was an attempt by Sivankalai (2017) to determine the information literacy services on the use of college digital resources among undergraduate students in E.I.T library. The study adopted a descriptive questionnaire approach to elucidate data 196 respondents through to seven science departments, six engineering departments and two education departments, and it was found that most of the respondents agreed to the necessity of information literacy on their information seeking aspect. Also, it was revealed that most of the students got their awareness from a librarian. According to the survey findings the institution of EIT barely provides training on information literacy skills. Similar study by Boger, Dybvik, Eng, and Norheim (2015) with qualitative interview approach on the impact of library information literacy classes on first-year undergraduate students' search behavior revealed that there were only slight differences in search behaviour between those who had attended the IL sessions and those who had not, and that many of the participants claimed to be using Google as their starting point for searching for information.

From the descriptions above, this study finds a gap in literature, that is, lack of empirical studies on the relationship between determinants of electronic library resources and electronic library resources access in the developing countries particularly in Saudi Arabia. The purpose of this study is to bridge this gap.

## 2.2. Theoretical Background

Electronic library resources are believed to be an emerging phenomenon that appears to possess some threat particularly to the Liberians across the globe (Adeyinka, 2011). It is having been observed that the adoption of a new technology is not all other easy, it takes time and effort. Not only that but also understanding an emerging phenomenon such as electronic library resources require a theoretical underpinning and explanation which this section of this study tends to accomplish. For this reason, the theory of Technological Acceptance Model often code-named TAM is adopted to help in the explanation of the relationship among the variables under investigation. This theory was proposed by Davis in 1989 to predict and explain the use action of information system. Two key variables namely Perceived Usefulness and Perceived Ease of Use were used to drive his explanation. The theory believes that people are apt to use information technology if they believe it will help them do a better job, and also will use the technology if they believe it is easy to use. Chun (2014) believe that TAM is a credible model in many researches of this nature. The study believes that TAM can be used to explain the acceptance and use of technology or any new phenomenon such as electronic library resources. For students to use electronic library resources, they must find it useful and then

Figure 1. Research model



ease to use. According to Davis, Perceived Ease of Use is defined as the degree one believes that using internet learning resources such as electronic library resources would be free of difficulty or great effort. From the explanation, it is clear that there is a direct link between ease of use and electronic library resources access. Apart from that availability of the technology is indispensable. In other words, the technology must be available before one talk about ease of use. Hence, availability and ease are crucial in determining the electronic library resources access.

### 3. CONCEPTUAL MODEL

Figure 1 is used to demonstrate the relationship between the determinants and electronic library resources access. It shows that determinants such as availability and ease of use are directly related to electronic library resources access. In other words, if the electronic library resource is available for use and it is easy to use then students will have access to electronic library resources. Based on this explanation, the study therefore hypothesizes as follows:

**H1:** Availability is significantly related to electronic library resources access.

**H2:** ease of use is significantly related to electronic library resources access.

### METHODS

The study adopts cross-sectional survey design. First the population covers all the students at Imam Mohammad Ibn Saud Islamic University, Saudi Arabia. The sample size was determined using the formula by Tabachnick and Fidell (2001) as reported by Pallant and Manual (2007):

Formula ( $N > 50 + 8m$ )

where:

$N$ =population of the study

50= given

8=given

$m$ =number of the independent variables in the study

Furthermore, data collection was conducted using email procedure. The variables were measured accordingly. For example, availability was operationalised as obtainable, able to use, freedom to use information, committable etc. but measured on a 5-point Likert scale of 1- strongly disagree to 5-strongly agree. Also, ease of use was defined as easy to access, effective, efficient, able to achieve, complication, complex and functional but measured on a 5-point Likert scale of 1- strongly disagree to 5-strongly agree. Finally, the study operationlised electronic library resources access as easily understood, very usable, opened to all every, obtain good information, restriction, challenges,

Table 1. Descriptive analysis result

Variables	Frequency	Percentage	Mean	Standard Deviation
<b>GENDER:</b>				
Male:	62	48.4	1.52	.502
Female:	66	51.6		
<b>AGE:</b>				
Less than 20	19	14.8	2.03	.574
20-25 years	86	67.2		
20 years and above	23	18.0		
<b>MARITAL STATUS:</b>				
Single	104	81.3	1.26	.949
Married	23	38.3		
<b>PROPRGRAM:</b>				
Management	49	38.3	2.00	.878
Sciences	30	23.4		
Others	49	38.3		

hindrance etc. and then measured the variable using 5-point Likert scale of 1- strongly disagree to 5-strongly agree.

#### 4. DATA ANALYSIS RESULT

##### 4.1 Descriptive Analysis Result

The descriptive analysis result captures for variables which are the gender, age, marital status and program of the respondents (Table 1). The analysis was used to checked frequency and percentage of the respondents' characteristics. The result shows that in gender, 66 of the respondents out of 128 are females accounting for 51.6% and 62 of them are male showing 48.4% with a total mean score of 1.52 and standard deviation of .502. In their age limit, it shows that majority of them fall within the age limit of 20-25 years representing 67.2%, 23 of them are within the age limit of 20 years and above accounting for 18% and the 19 of them fall within the age limit if less than 20 years representing 14.8% with a total mean score of 2.03 and standard deviation of .574. For marital status, it is revealed that 104 of the respondents out of 128 are singles accounting for 81.3% and 23 of them are married showing 38.3% with a total mean score of 1.26 and standard deviation of .949. Finally, the result for the respondents' program indicates that 49 of the participants are from both management and science programs accounting for 38.3% respectively while the remaining of them are 30 representing 23.4% with a total mean of 2.00 and standard deviation of .878.

##### 4.2 Validity, Reliability and Correction Analysis Results

The validity test was used to validate the instruments used in measuring the variables. Specifically, Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) through construct validity with a threshold of 0.5 and above was used to judge whether items are valid or not. The result depicted in Table 2 shows that the remaining items of after dropping those with low loading factors are valid. The reliability also revealed that items are reliable through internal consistency measures with Cronbach alpha threshold value of 0.5 and above. The remaining items after dropping those with low cronbach alpha are said to be reliable after meeting the threshold. The KMO and Cronbach alpha scores are depicted in Table 2.

Finally, the correction result revealed that variables are well correlated. For example, the correlation between e-library resources availability and e-library resources access is statistically

**Table 2. Validity, Reliability and Correction Analysis Results**

Variables	Construct Validity (KMO)	Internal Consistency Reliability (Cronbach Alpha)	Correlation Analysis Result	
			E-Library Resources Availability	Ease of Use
E-library Resources Availability	.561	.761	.973**	.869**
Ease of Use	.527	.679		
e-library Resources Access	.671	.722		

\*\* . Correlation is significant at the 0.01 level (2-tailed).

significant ( $r=.973^{**}$ ) at  $p<0.01$  level. This result suggests a very strong positive correlation. It further revealed that ease of use is strongly and positively correlated with e-library resources access ( $r=.869^{**}$ ) at  $p<0.01$  level.

### 4.3 Hypothesis Testing

For this purpose, a linear regression analysis was employed. And from Table 3, it shows that e-library resources availability is statistically significant related to e-library resources access. It shows an R Square of .947 accounting for 94.7% variance of independent variable in the dependent variable. The ANOVA demonstrates that the model is fit having indicated a sig. value of  $000^b$  at  $p<0.05$ . The result implies that e-library resources availability is a significant predictor of e-library resources access. This hypothesis is therefore supported.

On the Ease of Use and e-library Resources Access relationship, the regression result shows that Ease of Use is statistically significant to e-library Resources Access where R Square is of .755 accounting for 75.5% variance of independent variable in the dependent variable. The ANOVA demonstrates that the model is fit having indicated a sig. value of  $000^b$  at  $p<0.05$ . The result implies that ease of use is a significant predictor of e-library resources access. Based on the result, the hypothesis is also supported.

## 5. DISCUSSION OF FINDINGS

This paper deals with electronic library resources access among the students in higher institutions. Thus, it is an empirical study of how some determined factors affect electronic library resources access among the Saudi Arabia students with particular interest in Imam Mohammad Ibn Saud Islamic University. Although there could be many factors generally affecting electronic library resources

**Table 3. Regression analysis results**

Hypothesis	R	R Square	Adjusted R Square	ANOVA	Beta	t	Sig.	Decision
E-library Resources Availability =>e-library Resources Access	.973 <sup>a</sup>	.947	.946	.000 <sup>b</sup>	.973	47.387	.000	Supported
Ease of Use=>e-library Resources Access	.869 <sup>a</sup>	.755	.753	.000 <sup>b</sup>	.869	19.706	.000	Supported

access, however, this study is only limited to two key factors based on the peculiarity of the context upon which this study was conducted. The study implied the Technology Acceptance Model (TAM) model explain the various relationships proposed in this study.

On the descriptive analysis result, it is proven that younger users rely on electronic resources more heavily and rate themselves more expert in using them than do older users. For example, it shows that majority of them are in their prime and therefore have these hungers for internet technology. This hunger makes them to surf and search for information over the internet. It was also revealed that there were no much differences in gender in terms of accessing electronic library resources. Earlier study by C Tenopir et al. (2003) have observed there is little evidence suggesting that gender in most cultures makes a difference in use of electronic resources. In terms of age, they equally observed that younger people are more likely to have access and use electronic library resources.

First, the study theorised that electronic library resources availability would significant affect electronic library resources access while the second, states that ease of use is significantly related to electronic library resources access. These hypotheses were tested using the linear regression analysis technique via Statistical Package for Social Sciences (SPSS) version 20.

The interesting thing in the findings obtained from the study is that both variables used to predict the dependent variable highly proofed statistically significant. For example, it is demonstrated in the finding that the relationship between electronic library resources availability and electronic library resources access is statistically significant ( $p < 0.05$ ), suggesting that electronic library resources availability is a significant predictor of electronic library resources access among the students in higher institutions particularly that of Imam Mohammad Ibn Saud Islamic University. It shows that the availability of electronic library resources would increase its access for students. The reason being that people are more likely to access what they perceived that is available to them. And this availability would be in terms of obtaining information at will, freedom to use information, resources committable, information meeting their needs etc. Okogwu and Mole (2019) affirms that non -availability of e-resources relevant to the information needs of the users and e-resources affect accessing of electronic library resources while on the other hand, availability of e-resources relevant to the information needs of the users would affect access to electronic library resources. C Tenopir et al. (2003) found that users will read articles from a wide variety of journal titles and sources if available to them, although most of the readings come from relatively few journals. Therefore, the finding supports the hypothesis that electronic library resources availability is related to electronic library resources access among the students.

Furthermore, the finding is revealed that ease of use is statistically significant to electronic library resources access among the students in higher institution. This implies that ease of use significantly predicts electronic library resources access ( $p < 0.05$ ). Okogwu and Mole (2019) alleged that complicated electronic library resources may affect access to such electronic library resources. Chun (2014) through the Technological Acceptance Model (TAM) claimed that people are apt to use an information technology if they believe it will help them do a better job, the same if they believe the given system is easy to use. This further suggests that electronic library resources is free of difficulty, hindrance, not complicated and complex, effective, efficient, feel satisfied from using it, achieve ones goal and able to find information in a jiffy. C Tenopir et al. (2003) claimed that convenience remains the single most important factor for information use-all types of users prefer electronic journals only if they make their work easier and give them the information they need.

## 5.1 Conclusion and Implications

From the findings, this study draws several and interesting empirical conclusions. First and foremost, it is established that electronic library resources availability significantly affects electronic library resources access among the students. Secondly, it is concluded that ease of use has a lot of impacts on the electronic library resources access among the students.

This study has several implications particularly to the students and the university management including the society in general and to other electronic library resources users. An insight provided by this study send a clear message that university management needs to ensure the availability of electronic library resources to enable students have access to it. Improving internet bandwidth, network and for speedy internet connectivity would equally play a very significant role in this respect.

Also, it tells management to avoid complex and complicated electronic library resources for easy access by the students. Overall, the findings would assist both the researchers and the institutions of higher learning by attempting to design amicable solutions to the e-library resources access.

## **5.2 Limitation and Suggestion for Future Studies**

This study is purely quantitative approach where quantitative data was employed to draw conclusions on the subject matter. Some researchers are of the believe that qualitative approach provide more insight than the quantitative technique therefore, making this study to suggest a qualitative technique for additional robust findings.

Furthermore, there may be other important and relevant variables that could also predict e-library resources access among the students in institutions of higher learning which this study failed to capture such as library budget, internet connectivity, facilities, attitude, bevaious, religion, culture, subscription of electronic resources etc. therefore, subsequent studies of this nature could look into these factors.

## **Conflicts of Interest**

We wish to confirm that there are no known conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome.

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