



Performance and effort expectancies in the use of institutional repositories among postgraduate students in Southwest Nigeria

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Through a correlational survey of 313 postgraduate students from two universities in Southwest Nigeria, it was found that the use of institutional repository among the respondents is high. It was also found that performance expectancy ($\beta=0.283$, $t=3.904$, $p<0.05$) is a significant predictor of institutional repository use while effort expectancy ($\beta=0.172$, $t=2.310$, $p>0.05$) is not a significant predictor of the use of institutional repository among the respondents. We conclude that the repository content and awareness about the repository are crucial to the adoption and use of such systems.

Keywords: Electronic Information Resources, Institutional Repositories, Information Systems, Students

Introduction

It is reported that there are 3,240 repositories in the world with the highest number of institutional repositories (IRs) being from Europe (45.6 %), then Asia (19.7 %), North America (18.8 %), South America (8.6%) and Africa (4.4 %). The highest number of IRs in Africa are from South Africa with 22.4% (32); Kenya with 16.1 % (23); Nigeria with 13.3% (19); and Algeria with 9% (13) institutional repositories¹.

In Nigeria, the institutional repository is of great importance due to the reduced ability of universities to subscribe to proprietary scholarly databases². Institutional repositories are widely acclaimed as veritable tools in the achievement of higher standard of teaching, learning, and research in the institutions that created them³. This is because they contain high-quality information resources that provide researchers, lecturers, and students with the necessary resources for teaching, learning and research⁴. As a result, the focus of library and information scientists has not only been on the creation of IRs but also to promote their use among various categories of users.

A study on factors that affect the use of institutional repositories in a South African University indicated that a majority (59%) of faculty agreed that they find the IR useful, while 40% of the postgraduate students feel the same⁵. A study conducted in Indonesia approached the use of institutional repositories from the open access point of view and

how student researchers in one Indonesian university take advantage of the opportunities offered by institutional repositories. From the study, it was reported that majority of the respondents often make use of institutional repositories. This led the authors to conclude that the IR is very useful and have impact on students in their research⁶.

However, preliminary investigation and literature review have revealed that postgraduate students in Nigeria do not frequently use institutional repositories to source for information during their researches. Studies also revealed that the frequency of use of IR as information source among lecturers in Nigerian universities is low⁷. This has led scholars to consider various factors that may affect the use of institutional repositories. Some of these factors include the constructs of Unified Theory of Acceptance and Use of Technology (UTAUT) model such as performance expectancy, effort expectancy, social influence and facilitating conditions have been used by various scholars around the world to investigate the use of various information systems^{8,9}.

Studies have shown that postgraduate students' who use of digital information sources such as institutional repositories depend on their perception that IRs contain resources that can help them achieve various academic tasks and improve the quality of their scholarly output. However, researchers are still interested in how this ability to improve scholarly works (Performance Expectancy) affect the decision

of the users to make use of information systems such as IRs. As a result, various studies have been conducted to evaluate the role of performance expectancy and other constructs on the behavioural intention to use and the actual use of various information systems.

One of such studies investigated the intention of Taiwanese university students to adopt mobile digital library applications. The study found that performance expectancy (PE) has a significant influence on students' decisions to adopt mobile library applications¹⁰. Further studies were conducted in Malaysia by researchers who examined the factors affecting the behavioural intention of postgraduate students in the country to use digital libraries. The study, which was based on the UTAUT model reported that performance expectancy, effort expectancy, and information quality, in that order were the factors that significantly affect the postgraduate students' behavioural intention to make use of digital libraries¹¹. In the same vein, a study was conducted to determine the factors influencing the utilization of electronic libraries by students at government owned Universities in Jordan. Data analysis also revealed that performance expectancy was a significant factor influencing the behavioural intention of the students in their use of electronic library services. Other significant factors include effort expectancy, and social influence¹².

A study investigated the determinant factors for the acceptance of institutional repository by lecturers in Thai universities. The study revealed that performance expectancy is one of the factors that directly predicted the behavioural intentions to use the IR by the lecturers while behavioural intentions is a key predictor of actual usage behaviour¹³.

In a study that examined the influence of performance expectancy on the use of institutional repositories by Indonesian lecturers, it was found that the value of R-square is 0.576. It reflected that the impact of performance expectancy on the use of IRs is 57.6 %. This is a significant percentage which indicates that nearly sixty percent of the lecturers will consider the performance of the repository before making the decision whether to use it or not¹⁴. The role of performance expectancy in the use of information systems was also highlighted in a study conducted from Oregon State University in the U.S. The findings revealed that researchers chose bibliographic tools because they expected them to

enhance their research productivity and continued using them, as they were easy to use¹⁵.

In Swaziland, a study was conducted to determine the factors affecting the usability of institutional repository established by the University of Swaziland (UNISWA). The study showed that majority of the lecturers (59%) agreed that they find the IR useful. However, less than half of the postgraduate students (41%) reported the same. Only 27% of the lecturers reported that they have never used the repository while majority of the postgraduate students (73%) had never used it¹⁶.

A related study to examine factors that motivated library users from Southwest Nigeria to adopt automated library systems revealed that performance expectancy was among the significant factors that affect the acceptance and utilization of automated library systems by the respondents¹⁷. In addition to performance expectancy, there are empirical evidence to show that effort expectancy also determines the use of information system which include institutional repositories.

It was found that effort expectancy ($t = 0.546$, $p > 0.05$) is the most significant predictors of behavioural intention towards using Google classroom. Other constructs such as social influence ($t = 1.460$, $p > 0.05$) and facilitating conditions ($t = 1.249$, $p > 0.05$) were found to be less significant in determining behavioural intentions of students¹⁸. The implication of this finding is clear enough; students follow the path of least resistance when they search for information resources for various tasks.

Researchers examining the predictors of behavioural intentions to use information systems by humanities students concluded that the amount of ease or efforts required to utilize a given information system is often the most important element that affects the behavioural intention to use such system¹⁹. Various studies have also established connections between effort expectancy and behavioural intention to adopt technology. Theoretically, postgraduate students' intention is also influenced by a perception of the complexity of the system while using and the skills needed to use IT. That is, the convenience in using the technology and the compatibility of system with the local emergency managers' experience and skill influences their intent to use the technology²⁰.

However, the effort expectancy is moderated by the technical skills of the user. Postgraduate students with high level computer skills and competencies may feel

comfortable in using the institutional repository to source for information and complete their information search and retrieval tasks promptly and efficiently¹¹.

A Nigerian study examined the perception and use of electronic resources by students in the academic library. It was reported that 56% of the respondents complained of lack of training on the use of e-resources. Sixty percent were not satisfied with the Internet speed, while 65% of the respondents believed the information system in the library lacks insufficient e-resources in their field of study²¹. Similarly, in a study which included librarians and lecturers selected from universities across Nigeria, it was revealed that 80.8% of the respondents lack adequate internet bandwidth, while 75% complained about the inadequate users' education²². This has affected the perceived ease of using institutional repositories in a negative way.

Several researchers have applied constructs from the unified Theory of Acceptance and Use of Technology Model to study the predictors for the use of several information systems. However, studies focusing on the role of performance expectancy, effort expectancy and use of institutional repositories seem to have received less attention from scholars in Nigeria, especially within the context of universities in Southwest Nigeria. This study therefore investigated the influence of performance expectancy and effort expectancy of use of institutional repositories of Postgraduate Students in Universities in Southwest Nigeria

Objectives of the study

- To determine the level of use of institutional repositories among postgraduate students in Universities in Southwest Nigeria;
- To find out the influence of performance expectancy as an indicator of UTAUT model on the use of institutional repository among postgraduate students of Universities in South-west Nigeria; and

- To investigate the influence of effort expectancy as an indicator of UTAUT model on the use IR among postgraduate students of Universities in South-west Nigeria.

Methods

The study adopted a correlational survey research method. The study population consisted of 1,567 postgraduate students from two universities. To arrive at the sample size, the Krejcie and Morgan sampling table was used which resulted in 313 students as the study sample. This number was randomly selected from the two universities. A structured questionnaire was used for data collection. The data obtained were analysed using both descriptive and inferential statistics. The institutional repositories studied include: Covenant University institutional repository (<http://eprints.covenantuniversity.edu.ng/>) and Afe Babalola university institutional repository (<http://eprints.abuad.edu.ng/>).

Analysis

Use of institutional repository

Table 1 shows that research articles are highly used (Mean = 3.48) followed by research guides which are documents detailing the acceptable formats of research reports in specific institutions (Mean = 3.36), e-theses and dissertations (Mean = 3.28), Handbooks (Mean = 2.89), and inaugural lectures (Mean = 2.86). The average mean of all the responses is 2.65 which indicates an above-average level of institutional repository use among the respondents.

Influence of performance expectancy on IR use

Table 2 shows the influence of the perception of performance expectancy on the adoption and use of institutional repositories by postgraduate students in the selected universities. As indicated in the table, performance expectancy ($\beta=0.283$, $t=3.904$, $p<0.05$) has a significant statistical value which shows that it has positive effect in regulating the use of institutional

Table 1 — IR use among postgraduate students

	Highly used	Often used	Rarely used	Never used	Mean	Std. Dev.
Research articles	102 (56.7%)	66 (36.7%)	9(5.0%)	3 (1.7%)	3.48	.672
Research guides	84 (46.7%)	78 (43.3%)	16 (8.9%)	2 (1.1%)	3.36	.690
E-theses & dissertations	80 (44.7%)	72 (40.2%)	24 (13.4%)	3 (1.7%)	3.28	.757
Handbooks	55 (30.6%)	65 (36.1%)	46 (25.6%)	1 (47.8%)	2.89	.931
Inaugural lectures	55 (30.6%)	64 (35.6%)	42 (23.3%)	19 (10.6%)	2.86	.973
					Average Mean =	2.65

Table 2 — Influence of performance expectancy in IR use

Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Remark
	B	Std. Error	Beta			
(Constant)	0.042	0.649		.065	.948	Significant
Performance Expectancy	0.187	0.048	0.283	3.904	.000	

a. Dependent Variable: use of Institutional Repositories

Table 3 — Influence of effort expectancy on IR use

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.396	.504		2.768	.006
Effort Expectancy	.091	.040	.172	2.310	.022

a. Dependent Variable: Use of Institutional Repositories

repositories. The extent to which postgraduate students perceive the content of the institutional repository as capable of enhancing their academics is a deciding factor in their use of institutional repository. This means that, there was a significant relative influence of performance expectancy on the use of institutional repositories by postgraduate students in the selected universities. The null hypothesis is therefore rejected.

Influence of effort expectancy on the use of IRs

Table 3 shows the influence of the perception of effort expectancy on the adoption and use of institutional repositories by postgraduate students in the selected universities. As indicated in the table, effort expectancy ($\beta=0.172$, $t=2.310$, $p>0.05$) has no significant statistical value which shows that it has no relative influence in regulating the use of institutional repositories. This means that the effort required to make use of the institutional repository is not a deciding factor in the use or non-use of institutional repositories by postgraduate students in the selected universities. The null hypothesis is therefore upheld.

Discussion

The study found the influence of performance expectancy and effort expectancy on the use of institutional repositories by postgraduate students in selected universities. The study revealed that performance expectancy has a significant positive influence on the use of institutional repositories. It is established that the main consideration for information users, particularly at the postgraduate level is the relevance of the available resources to the task at hand²³. Furthermore, postgraduate students would normally accept only information systems those that are perceived as capable on improving their research and help them achieve better outcomes²⁴.

The findings of this study align with that of several others as discussed here. Information users would tend towards systems where their information needs can be met. The institutional repository must be populated with carefully selected information resources, especially, the research output of the members of the university community. This will be useful to postgraduate students who are aiming to follow the footsteps of erudite scholars in their field. Researchers have no time to waste on a system that cannot add positively to or make their work easier so the institutional must meet the expectation of the users²⁵.

Hypothesis two examined the influence of effort expectancy on the use of institutional repository among postgraduate students at universities in south-west Nigeria. The findings showed that effort expectancy has no significant influence on the use of institutional repositories among the postgraduate students.

A study reported that the best way to ensure effective use of institutional repositories is to make all stakeholders, including the users understand its merit²⁶. As a result, they are not likely to be fazed by new technology⁵. Apart from this, it was also reported that the required effort does not matter when the information system is renowned for quality and relevant information resources. This was found in a study where 70% of the respondents reportedly made use of institutional repository even though more than 60% found the same repository difficult to use^{27,28}.

Conclusion

Institutional repositories have been recognised as a good avenue for delivering relevant and quality information resources to researchers especially postgraduate students who are expected to conduct in-depth research as part of the requirements to obtain postgraduate degrees. It is therefore the responsibility

of academic libraries to ensure that they develop and maintain institutional repositories with full consideration of all the factors that can ensure their maximum utilization. The current study has revealed that information users are ready to make use of relevant information resources and they will accept and use any information system that provides them with the needed information.

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