DETERMINANTS OF LECTURERS' ACCEPTANCE TOWARDS OPEN EDUCATIONAL RESOURCES FOR KNOWLEDGE SHARING IN UNIVERSITIES OF NORTH-EAST NIGERIA

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Abstract

This study investigated the Determinants of Lecturers' Acceptance and Attitude Towards Open Educational Resources for Knowledge Sharing in Universities of North-East Nigeria. The population of the study was 632 lecturers drawn from Federal Universities of Northeast Nigeria. The sample of the study comprised of 338 lecturers purposively selected from three Federal Universities distributed within the three states (Adamawa, Bauchi and Borno State) in North-east Nigeria. The study adopted concurrent embedded mixed method research design in which four Quantitative and one qualitative (QUAN + qual) research questions guided the study. The instruments used for data collection are questionnaire and focus group interview protocol. The instruments were validated by experts and subjected to reliability test using Cronbach's alpha. The reliability coefficient of the constructs for lecturers' acceptance to share OER was; α = .956 for PE, α = .925; for EE, α = .955; for SI, α = .879; for FC and α = .948 for acceptance to share OER. For the focus group interview protocol, a pilot focus group interview was conducted with seven lecturers purposively selected in the university where the questionnaire was pilot tested. Multiple investigators of two lecturers were used in collecting, transcribing and coding the data. The result of the analysis showed that Cohen's κ = .611 with p < 0.002 was obtained on lecturers' attitude toward knowledge sharing on OER. Mean (x) and standard deviation (SD) was used to answer the research questions with the arithmetic mean for the values computed as: 5+4+3+2+1= 15/5= 3.00. Descriptive statistic for qualitative data was a thematic analysis and was use to answer research question five with the help of Atlas ti. Version 9.1. The findings of the study revealed that Performance expectancy, effort expectancy, social influence and facilitating conditions variables collectively influence lecturers' acceptance to share OER. Based on these findings, the study recommends among others that the university management should consider adjusting OER policy to be centred around actualizing lecturers career progression.

Keywords: Determinants, Lecturers' Acceptance, Open Educational Resources, Knowledge Sharing

Introduction

Universities are communities of intellectuals with the primary functions of teaching, research and extension services in all domains of knowledge. For universities to function well, they must be autonomous of external interference in the conduct of their routine academic activities and should have the moral and cultural capacity to pursue knowledge in its purest form while also contributing meaningfully to the development of societies. Robinson (2015) clarified that a university system makes its contribution through; creation of new knowledge in a specific discipline and scholarly communication of that knowledge to end users; giving meanings to isolated facts and interpreting data to extend the boundaries of human knowledge.

Knowledge creation and communication is now simplified given the availability of smart phones, iPad, tablets, e-book readers and personal computers within the reach of students. Their expertise in the use of these devices heralded their integration in teaching and learning with digital contents. Kanwar and Mishra (2017) stressed the need for adoption of open educational content such as free e-books, journals, videos and reports to support the proliferation of digital devices. Supporting this idea, Hatakka (2016) confirmed that embracing open content will provide a medium for accessing remote learning resources freely in

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almost every subject and in a variety of media (text, audio, video and animated graphics) from anywhere, any time of the day to an unlimited number of students. With this development, lecturers and students no longer have to rely solely on teaching and learning resources in physical mode housed in libraries and educational resource centres for their educational needs.

Recently, Kanwar and Mishra (2017) unveiled the institutionalized repository supported by a policy as Open Educational Resources (OER) developed primarily for increasing access to remote learning resources; enabling knowledge network for students; broadening the availability of quality education resources; and enhancing the efficiency of educational delivery. OER has been referred to as teaching, learning and research materials in any medium that reside in the public domain, released under an open license that permits their free use and, in some instances, re-purposing by others (Kelly, 2014). Certainly, this development provides a new way of transacting education and is particularly significant for universities in developing countries whose students can no longer afford proprietary resources for the reason of cost. Though, how lecturers responded to this policy in accepting to share their resources for co-lecturers and students use in OER repository remained indeterminate.

Lecturers' acceptance to share OER refers to a mental disposition to contribute resources in any medium (digitized and print) to the university OER repository. Apparently, accepting the culture of open sharing (of print and digital resources) in Nigeria is completely new for university lecturers particularly as it relates to releasing their hard-own developed resources for free use. It is also common to accept the fact that if university lecturers do not share learning resources under their possession, they have accessed it in some ways. Likewise, it is worthy to note that University lecturers being prime stakeholders for OER policy implementation, are not unfamiliar with its potential benefits pedagogically for communicating the curriculum via the repository and technologically, the ease with which digitised content can be shared. However, accepting to share knowledge in

OER repository is a multifarious process that require the spirit of collaboration rather than having the quantum of knowledge content alone (Christopher & Julie, 2018). The spirit of collaboration as conferred by Hatakka (2016) is now a global practice among university lecturers, researchers and practitioners in education with a motive to improve the efficiency and effectiveness of knowledge communication.

For OER, attitudes refer to the degree to which a lecturer has a favourable or unfavourable evaluation of OER. Attitude is determined by three components: attitude toward the behaviour, behavioural beliefs and outcome evaluation. The attitude toward the knowledge sharing refers to a lectures' judgement that sharing is generally good or bad (Daud *et al.*, 2015). Attitudes toward sharing are also determined by beliefs about that sharing. In understanding the determinants that explain lecturers' intention to accept OER in the university settings, the Unified Theory of Acceptance and Use of Technology (UTAUT) model with four constructs (performance expectancy, effort expectancy, social influence and facilitating conditions) was applied as direct determinants of lecturers' acceptance. Building on the theoretical constructs, Performance expectancy refers to the extent to which educators believe that sharing and use of OER will help them to enhance their teaching performance and that of their colleagues (Venkatesh *et al.*, 2003). Though, performance expectancy alone might not account for lecturers' acceptance to share OER without the support of their effort expectancy. Effort expectancy refers to the degree of ease associated with sharing and use of OER repository (Venkatesh, *et al.*, 2003) and that the sharing and use would be free of effort (Davis, 1989). This is associated with the level of easiness and flexibility of sharing content via OER and using the 5Rs (Retain, Reuse, Revise, Remix, and Redistribute) model which clarify some of the rights that can be incorporated with OER development and use (Wiley, 2015). Social influence refers to the degree to which lecturers perceives that important others (opinion of peer lecturers) believe he or she should share and use the shared OER.

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Important others in this study included university management, senior colleagues, faculty and students. Social influence also consists of lecturers' image, job relevance, voluntariness of use and their perception of the usefulness of OER. while facilitating conditions refers to the degree to which lecturers are satisfied with the institutional framework, policies and technical infrastructure (availability of time, computers, internet connectivity, speed of internet bandwidth and proficiency in ICT skills) to support the sharing and use of OER innovation (Venkatesh *et al.*, 2003).

In line with the construct of this theory, a number of studies were advanced. For instance, Padhi (2018) conducted a study on acceptance and usability of OER in Indian Higher Education using UTAUT Model. A cross sectional survey research design was used and the instrument for data collection was the questionnaire administered through Google platform. The questionnaire was sent to 800 teachers of 22 universities in India. Correlation and Regression analysis were used to analyse the data. The results indicate that performance expectancy and effort expectancy positively impacted on intentions to use OER. Therefore, the two hypotheses are supported. The results indicated that social influence and facilitating conditions do not have positive effect on intention to use OER. Therefore, the two hypotheses are not supported.

A similar study was carried out by Kurelović (2018) on Open Access Culture and Acceptance of Open Educational Resources in Croatian public universities using the sample of 427 respondents. Survey research design was used in the study and three hypotheses were raised and tested. The results of multiple regression analysis showed that the proposed model with predictor variable "open access culture" has a significant prognostic value on the intention to use and the actual use of OER, with a stronger influence on the intention to use OER. Additionally, Cox and Trotter (2017) investigated factors shaping lecturers' adoption of OER at three South African universities. The study employed a qualitative research approach through in-depth personal interviews with 18 respondents at three different universities which together broadly represent the characteristics of South Africa's university sector. Unique analytical tools– the OER adoption pyramid and OER adoption readiness tables – were developed to help with analysing and synthesising the data. Findings indicated that how OER adoption takes place at an institution is shaped by a layered sequence of factors – infrastructural access, legal permission, conceptual awareness, technical capacity, material availability, and individual or institutional volition – which are further influenced by prevailing cultural and social variables.

Statement of the Research Problem

Following the establishment of National Repository in the National Universities Commission (NUC), referred to as Nigerian Higher Education Open Educational Resources (NgHEOER), all higher education institutions were encouraged to develop their own institutional OER Policy aligned with the national Policy on OER, create institutional repositories to share teaching, learning and research materials on the Web (NUC, 2017). In line with this, university lecturers were directed to develop resources using multiple media facilitated by the reuse, revise and remixing of existing openly licensed resources (OER Policy, 2017). Their development will focus on contextualizing and customizing resources reflecting the peculiarities of their localities and upload same to their institutional OER repository. Conversely, lecturers' response to OER policy directive is slow in spite of the university managements' commitment towards encouraging lecturers to accept contributing resources to OER and utilize the resources already shared in the University OER repository. A group of existing literature on the trends of OER acceptance and utilization shows that lecturers are still nursing reservations regarding acceptance to share and use OER in Nigeria (Christopher & Julie, 2018). This is evidenced in a number of available resources in a specific university OER repositories which does not commensurate the number of lecturers in the faculties of these universities while other repository components remained barely empty. The available knowledge regarding acceptance

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to share resources on OER is still unclear in north-east universities calling for a deliberate action through empirical investigation. This study, Determinants of Lecturers' Acceptance, Use and Attitude towards Open Educational Resources (OER) for Knowledge Sharing in Universities of North-East Nigeria, has sought to address this gap through a unified theory of acceptance and use of technology (UTAUT) model with a view to unveiling a sustainable interference that could be useful for the uptake of OER in Northeast, Nigeria.

Objectives of the Study

The aim of this study is to investigate the determinants of Lecturers' Acceptance towards Open Educational Resources (OER) for Knowledge Sharing in Universities of North-East Nigeria. The objectives of the study are to examine;

1. The influence of performance expectancy on lecturers' acceptance to share OER in the selected Universities of Northeast Nigeria.
2. The influence of effort expectancy on lecturers' acceptance to share OER in the selected Universities of Northeast Nigeria.
3. The impact of social influence on lecturers' acceptance to share OER in the selected Universities of Northeast Nigeria.
4. The influence of facilitating conditions on lecturers' acceptance to share OER in the selected Universities of Northeast Nigeria.

Research Questions

The following research questions guided the study.

1. What is the influence of performance expectancy on lecturers' acceptance to share OER in the selected Universities of Northeast Nigeria?
2. What is the influence of effort expectancy on lecturers' acceptance to share OER in the selected Universities of Northeast Nigeria?
3. What is the impact of social influence on lecturers' acceptance to share OER in the selected Universities of Northeast Nigeria?
4. What is the influence of facilitating conditions on lecturers' acceptance to share OER in the selected Universities of Northeast Nigeria?

Research Design

This study employed a concurrent embedded mixed method design. Mixed method is an approach to inquiry that involve combining quantitative and qualitative research methods in a research study (Creswell, 2009). Concurrent embedded mixed method is identified by its use of one data collection phase, during which both quantitative and qualitative data are collected simultaneously. The study has a primary method (quantitative) that guides the study as descriptive survey and a secondary method (qualitative) that provides a supporting role as open-ended focus group interviews which collected detailed views from participants to help explain the initial quantitative survey. The concurrent embedded mixed methods design is visually illustrated in figure1.
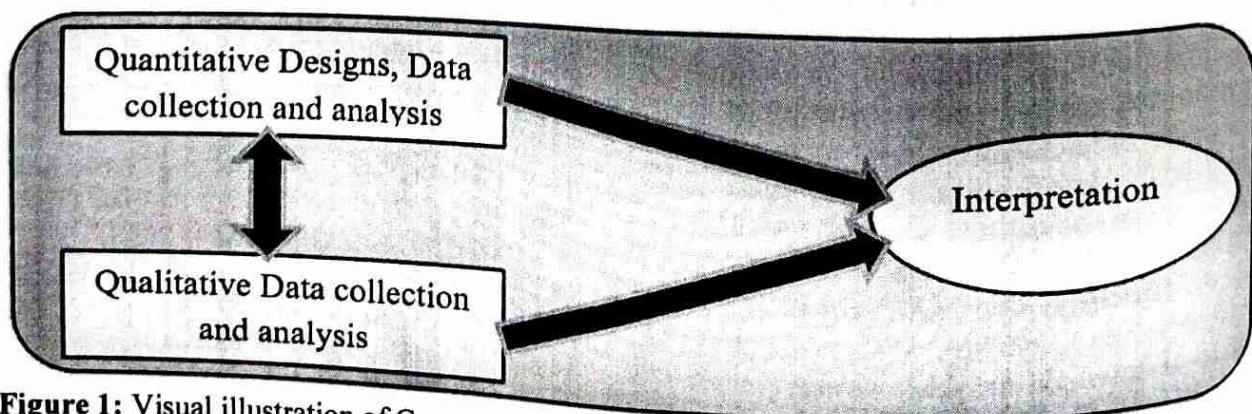

Figure 1: Visual illustration of Concurrent Embedded Mixed Methods Design
Source: Adopted from Creswell & Creswell, (2018).

Thus, the two components of the study are complementary; the qualitative component expanded upon and cross-checked the validity of the quantitative results. Figure 2 shows a visual illustration of the design layout.
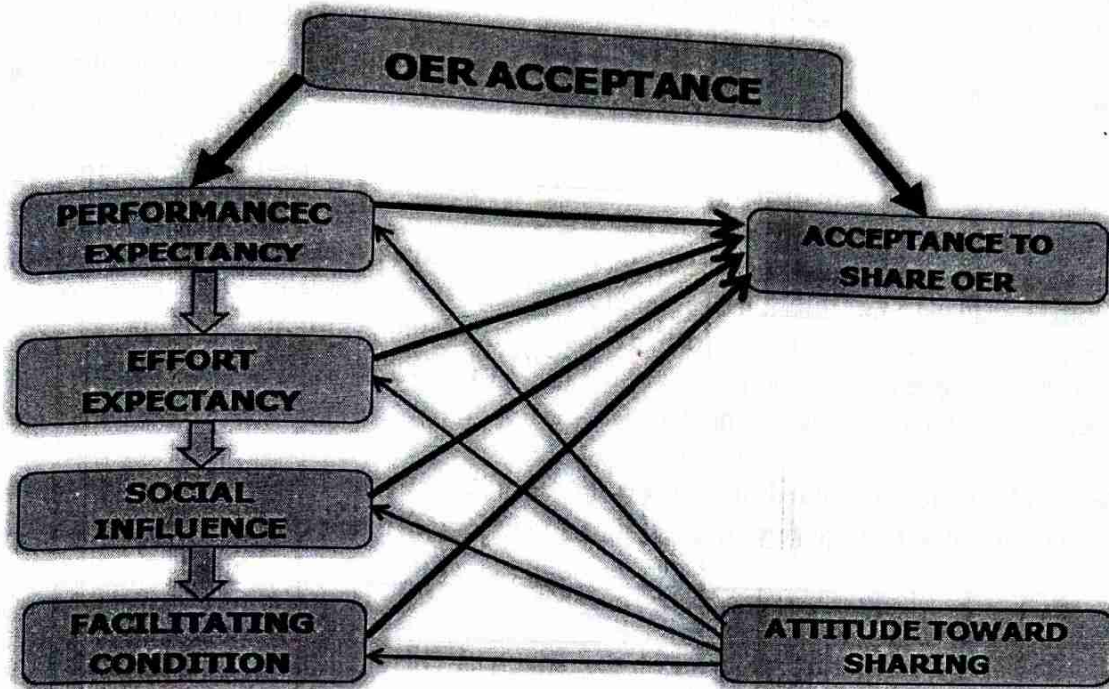

Figure 2: Pattern of Research Design
Source: Researcher, 2021

The sample for the quantitative method comprised of 338 lecturers purposively selected from three Federal Universities distributed within the three states (Adamawa, Bauchi and Borno State) in North-east Nigeria. The sample for the qualitative method consisted of 14 lecturers holding administrative positions like the Deans, head of Departments and Directors in their respective universities using a homogenous sampling procedure. The research instruments used for the study was a structured closed ended questionnaire and open-ended focus group interview protocol. The questionnaire titled Lecturers Acceptance of Open Educational Resources (LAOER) was adapted from the OER hub's (http://oerhub.net) researchers pack, modified to fit the research objectives and used as a predominant quantitative approach. While the focus group interview protocol was developed by the researcher. The questionnaire used for the study was already validated by the OER community. Despite its validation status, it was further subjected to face and content validation by experts and subjected to reliability check using Cronbach's alpha.

The reliability coefficient of the constructs for lecturers' acceptance to share OER was; $\alpha = .956$ for Performance Expectancy, $\alpha = .925$ for Effort Expectancy, $\alpha = .955$ for Social Influence, $\alpha = .879$ for Facilitating Conditions and $\alpha = .948$ for acceptance to share OER. For the focus group interview protocol, a pilot focus group interview was conducted with seven lecturers purposively selected in the university where the questionnaire was pilot tested. Multiple investigators of two lecturers were used in collecting, transcribing, coding and interpreting the data. The outcome of the two investigators was coded as rater = (R_1), and rater = (R_2) and were assigned a numerical value to qualify the data for Cohen's kappa interrater reliability analysis. The result of the analysis showed that Cohen's $\kappa = .611$ with $p < 0.002$ was obtained which indicate a substantial measure of agreement between the two raters'

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judgement on lecturers' attitude toward knowledge sharing on OER. Based on Cohen's kappa rule of thumb [00.01—0.20 slight agreement; 0.21—0.40 fair agreement; 0.41—0.60 moderate agreement; 0.61—0.80 as substantial agreement and 0.81—1.00 as perfect agreement. These results were adjudged to be comprehensive and reliable for the study (Creswell, 2009).

The data collected for this study was analyse using descriptive and inferential statistic. Descriptive statistic for quantitative data includes; Mean (x) and standard deviation (SD) used to answer research questions with the arithmetic mean for the values computed as:

5+4+3+2+1= 15/5= 3.00. Therefore, any item with weighted mean of 3.00 and above, was considered accepted and any item with weighted mean less than 3.00 was considered rejected as a decision rule. Descriptive statistic for qualitative data was thematic analysis and was used to answer research question five with the help of Atlas ti. Version 9.0.

Answering Research Questions for Quantitative Data.

Research question one: What is the influence of performance expectancy on lecturers' acceptance to share OER in the selected Universities of Northeast Nigeria?

Table 1: Mean and standard deviations of respondents on the influence of performance expectancy on lecturers' acceptance to share OER in the selected Universities of Northeast Nigeria.

S/N	Statements	N	$\bar{X}$	SD	Decision
1	Developing and sharing resources on the university OER repository will improve my academic writing skills.	338	3.28	1.552	Agree
2	Sharing resources on OER will enable me get feedback from colleagues and students on how to further improve my academic knowledge.	338	3.38	1.384	Agree
3	Sharing OER will enhance my confidence and academic productivity, as I see myself as part of the larger community.	338	2.95	1.463	Disagree
4	Sharing resources on OER will enable me fulfil the community service component of my lecturing job.	338	3.31	1.301	Agree
5	Uploading resources on OER will improve my computer and internet skills.	338	2.97	1.299	Disagree
6	My resources on OER will increase my academic network and sphere of influence.	338	3.42	1.379	Agree
7	Accepting to share OER will improve my research knowledge at the university.	338	2.97	1.336	Agree
	Cumulative mean				3.18

Key: Decision mean=3.0, N, Number in samples, $\bar{X}$ = Mean, SD= Standard Deviations

Table 1 shows the mean and standard deviation of respondents on the influence of performance expectancy on lecturers' acceptance to share OER. The table reveals that the mean responses to each of the items (ranges from 3.28 to 3.42) was consistently above the decision mean of 3.0 with the exception of item 3, 5 and 7 which are below the decision mean. Similarly, the cumulative mean response of 3.18 was obtained for the 7 items with OER having capacity to improve lecturers academic writing skills, increase academic network and sphere of influence and obtaining feedback from colleagues as the most important contributors to performance expectancy variable. Since, the cumulative mean is above the decision mean, it implies that respondents are in agreement with the statements. Hence, performance expectancy variable influence lecturers' acceptance to

share OER in the selected Universities of Northeast Nigeria.

Research question two: What is the influence of effort expectancy on lecturers' acceptance to

share OER in the selected Universities of Northeast Nigeria?

Table 2: Mean and standard deviations of respondents on the influence of effort expectancy on lecturers' acceptance to share OER in the selected Universities of Northeast Nigeria.

S/N	Statements	N	$\bar{X}$	SD	Decision
1	I find visiting the university OER repository very easy.	338	3.20	1.279	Agree
2	I find navigating the university OER repository straight forward and less cumbersome.	338	3.23	1.223	Agree
3	I find the URL link to my university OER repository highly responsive.	338	3.18	1.256	Agree
4	I find the university OER repository user friendly and so developing and uploading resources becomes easy.	338	3.12	1.271	Agree
5	Due to its flexibility, I use my computer, tablet and mobile phone to visit the university OER repository.	338	3.26	1.274	Agree
6	Sharing resources on OER repository comes easy once I am connected to the internet.	338	3.17	1.280	Agree
7	Selecting where a particular resource can reside in the OER repository is easy.	338	3.13	1.204	Agree
8	Locating a particular resource to share from my computer directory is free of effort.	338	3.11	1.289	Agree
	Cumulative mean		3.18		Agree

Key: Decision mean=3.0, N, Number in samples, $\bar{X}$ = Mean, SD= Standard Deviations

Table 2 shows the mean and standard deviation of respondents on the influence of effort expectancy on lecturers' acceptance to share OER. The table reveals that the mean responses to each of the items (ranges from 3.11 to 3.26) was consistently above the decision mean of 3.0. Additionally, a cumulative mean score of 3.18 was obtained for the eight items in which the use of computer, tablet and mobile phone to visit the university OER repository, the highly responsive nature of the URL link to OER repository and the user friendliness in uploading resources on OER as the most

important effort expectancy variables for lecturers in northeast Universities. Since, the cumulative mean is above the decision mean, it implies that respondents are in agreement with the statements. Hence, effort expectancy has influence on lecturers' acceptance to share OER in the selected Universities of Northeast Nigeria.

Research question three: What is the impact of social influence on lecturers' acceptance to share OER in the selected Universities of Northeast Nigeria?

Table 3: Mean and standard deviations of respondents on the impact of social influence on lecturers' acceptance to share OER in the selected Universities of Northeast Nigeria.

S/N	Statements	N	$\bar{X}$	SD	Decision
1	My colleagues in Commonwealth of Learning (COL) expect me to upload course materials and make them freely available for download and adaption by community of users.	338	2.89	1.350	Disagree

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S/N	Statements	N	X̄	SD	Decision
2	My colleagues in OER community think I should share teaching resources to make presence in the world OER map.	338	3.13	1.242	Agree
3	My co-lecturers in the university think we should collaborate to share teaching resources on OER repository.	338	3.25	1.188	Agree
4	My senior colleagues in the university expect to see my resources on OER repository.	338	3.28	1.245	Agree
5	My students in the university think I should share teaching resources on OER.	338	3.01	1.360	Agree
6	My mentees in the university think I should upload my resources on OER for their academic guidance.	338	3.09	1.301	Agree
7	Lecturers who are important to me in the university think I should share my teaching resources on OER.	338	3.15	1.228	Agree
8	My students who have concern for computer virus think I should share my teaching resources on OER.	338	3.14	1.305	Agree
9	My Head of Department think I should upload my resources on OER as directed by the university administration.	338	3.35	1.288	Agree
10	My colleagues in other faculties are looking up to seeing my resources on the university OER.	338	3.20	1.336	Agree
	Cumulative Mean		3.15		Agree

Key: Decision mean=3.0, N, Number in samples, $\bar{X}$ = Mean, SD= Standard Deviations

Table 3 shows the mean and standard deviation of respondents on the impact of social influence on lecturers' acceptance to share OER. The table reveals that the mean responses to each of the items (ranges from 2.89 to 3.35) was consistently above the decision mean of 3.0 excepts item one. Additionally, a cumulative mean score of 3.15 was obtained for the ten (10) items to which co-lecturers, senior colleagues' expectation to share resources and the university managements' directive to upload resources on OER repository contributed more to the social influence variable. Since, the cumulative mean is above the decision mean, it implies that respondents are in agreement with the statements. Hence, social influence has impacted on lecturers' acceptance to share OER in the selected Universities of Northeast Nigeria.

Research question four: What is the influence of facilitating conditions on lecturers' acceptance to share OER in the selected Universities of Northeast Nigeria?

Table 4: Mean and standard deviations of respondents on the influence of facilitating conditions on lecturers' acceptance to share OER in the selected Universities of Northeast Nigeria.

S/N	Statements	N	X̄	SD	Decision
1	My university has ICT centre and a robust internet connectivity that make OER repository always available.	338	3.16	1.298	Agree
2	I have computer and the internet skill necessary to develop and upload teaching resources on OER.	338	3.36	1.311	Agree
3	I have the knowledge of computer and the internet necessary to integrate OER into my courses.	338	3.38	1.305	Agree
4	My university has already developed OER policy which I am encouraged to accept.	338	3.22	1.326	Agree

		N	$\bar{X}$	SD	
5	OER administrators are available for guidance in developing and uploading the teaching resource.	338	2.99	161-176 1.374	Disagree
6	Technical assistants are available to help me in sharing teaching resources to OER repository and integrating it into my courses.	338	3.10	1.337	Agree
7	The university management is ready to reward lecturers who share their teaching resources on OER repository.	338	3.05	1.331	Agree
8	The university has steady electricity and a stand-by generating plant that facilitate the development and sharing of OER to the community.	338	3.14	1.336	Agree
	Cumulative Mean			**3.17**	Agree

Key: Decision mean=3.0, N, Number in samples, $\bar{X}$ = Mean, SD= Standard Deviations

Table 4 shows the mean and standard deviation of respondents on the influence of facilitating conditions on lecturers' acceptance to share OER in the selected Universities of Northeast Nigeria. The table reveals that the mean responses to each of the items (ranges from 2.99 to 3.38) was consistently above the decision mean of 3.0 excepts item five. Additionally, a cumulative mean score of 3.17 was obtained for the eight items. Since, the cumulative mean is above the decision mean, it implies that respondents are in agreement with the statements. Hence, facilitating conditions has influence on lecturers' acceptance to share OER in the selected Universities of Northeast Nigeria. The overall means of the constructs on acceptance to share OER was summarized and graphically presented in a column chart figure 3.

Overall Means of the constructs on acceptance to share OER
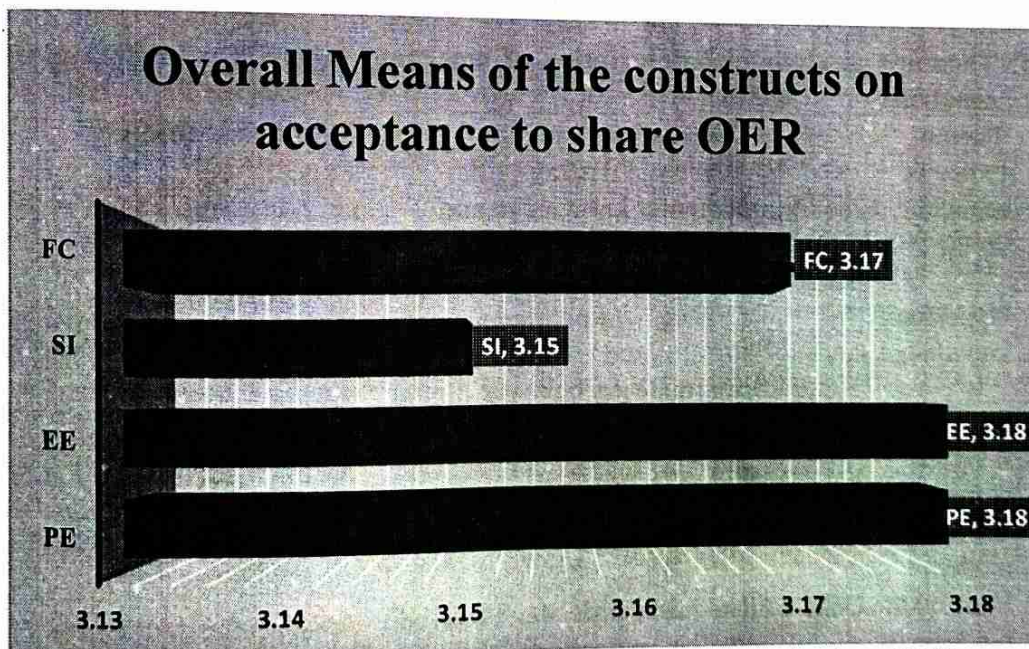
FC, 3.17
SI, 3.15
EE, 3.18
PE, 3.18

Figure 3: Summary of the overall means of the constructs on acceptance to share OER.

The column chart displayed the constructs on the y-axis and the corresponding means on the x-axis in which the taller columns indicated a higher means while the shorter columns indicated the lowest mean response. Similarly, the cumulative mean responses were displayed on top of each column for more illustration.

Research question five: How does the determinants influence lecturers' attitudes toward knowledge sharing on OER in the selected Universities of Northeast Nigeria?
To answer research question five, the interview transcripts were coded using inductive thematic analysis with ATLAS.ti. 9.1 for windows

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software in which patterns, themes and categories of analysis were generated from the interview data. Four categories which are from the UTAUT constructs and seventeen themes emerged. The themes were guided by the participants' responses to the interview questions, and were not based on a pre-existing UTAUT framework.

Three faculty focus group interviews with 14 lecturers holding administrative positions in the selected universities were conducted to increase understanding of the quantitative findings. The participants relayed additional information connected to lecturers' attitude toward knowledge sharing on OER repositories not revealed by the quantitative findings. Prior to the start of each interview, the purpose of the study was explained to the participants.

During the interview, the participants were asked "To what extent do the determinants influence their attitude to share knowledge on OER repository?" The participants communicated that sharing resources on OER repository increased lecturers' awareness, academic skills and overall productivity in the university. It was the participants' believed that many lecturers are looking for an opportunity to share knowledge to their students and colleagues as this will increase their kindness and reputation. As such, their attitude toward knowledge sharing is positive with few of them maintaining neutrality. An excerpt from a participant stated that;

"By sharing knowledge on OER, I expect that my academic skills will improve to a greater extent and for the knowledge I share on OER, if actually the end users internalise the idea rather than doing copy and paste which is tantamount to plagiarism in academic parlance will develop me professionally".

A number of related themes emerged from the data mirroring the determinants to include; (1) expected academic skills, (2) opportunity for knowledge sharing, (3) the ease of visiting the OER repository and (4) expectation of university administration and senior colleagues to share resources as shown in table 5.

Table 5: Thematic analysis and description of emerging themes for performance expectancy construct

S/N		Theme	Description	Significant findings
Performance Expectancy		Expected academic skills	Academic writing skills, computer knowledge and operational skills and internet skills.	Expectation for an increased academic skill influence lecturer's engagement in developing digital quality courseware for teaching.
		Opportunity for knowledge sharing	Sharing knowledge to students and colleagues in the discipline to increase digital presence and popularity.	As OER repositories remained opened for knowledge sharing, lecturers' attitude toward sharing resources digitally increases exponentially.
Effort Expectancy		Internet connection via Wi-Fi, hot spot, modem	Type of internet connection available; institutional, personal	Availability of free access to internet lessen lecturers' burden to buy personal data which influence their attitude toward OER activities.
		Visiting the OER repositories	The passwords, the URL link to the repository and the timely response.	As the passwords and the URLs are available and active, visiting OER repositories comes easy and lecturers find it easy to share resources.
Social Influence		Faculty members	Colleagues in the university both senior and co-lecturers	The presence of shared resources by faculty members in the repository influence lecturers to share more OERs.
		Institutional culture	What the university is accustomed to be doing as knowledge sharing culture	The culture of the university to share or be levelled with academic laziness influenced lecturers to share OER.

		Availability of computer and the internet	Partain to having access to computers and internet	Access to computer and related devices coupled with internet connection influence lecturers' attitude to share OER. When lecturers have assurances that they can be technically assisted in time of need, their attitude toward sharing OER is positive.
Facilitating Condition	Facilitating	Technical support services	An assistant given to lecturers when facing technical challenges.	

Source: Field interview

Table 5 revealed that performance expectancy thematically described as expectation for an increased academic skill, opportunity to use OER repository for knowledge sharing, expectation for professional growth and exposure to digital challenges collectively influence lecturers' attitude to share knowledge on OER repository. The finding implies that the interviewed participants have the belief that lecturers personal and attitudinal effort to adopt OER is good except that the university administration should provide the necessary facilities in order to make the process easier. The finding implies that lecturers are socially inclined to each other for their routine academic activities such as team teaching, team research and team authorship; their existence in a department and faculty as team also contributed to their interdependency. This finding implies that the views of lecturers holding administrative positions polarized along positive and negative connotations regarding facilitating condition variable. The findings were supported by a network of codes and quotations indicating a relationship between the information given and its direction toward the construct. The codes and quotation network of the constructs on acceptance to share OER was graphically presented in figure 4.
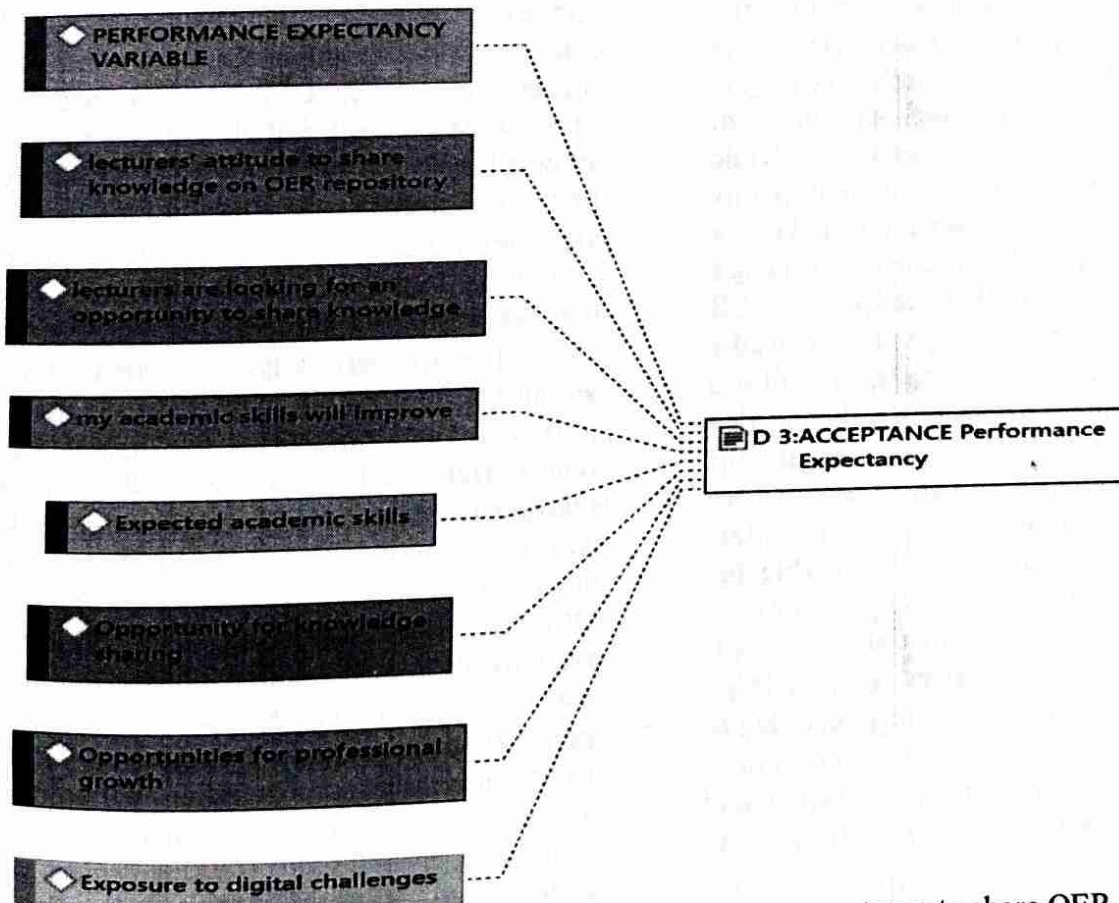

Figure 4: Codes and quotation network of the constructs on acceptance to share OER

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Figure 4 displayed the four codes and an additional four quotations that are relationally connected to the construct performance expectancy. The codes and the quotations confirmed the results of the quantitative finding that the construct "performance expectancy" influence lecturers' attitude to share knowledge on OER repository.

Discussion of result

Quantitative findings of research question one revealed that performance expectancy variable influence lecturers' acceptance to share OER in the selected Universities of Northeast Nigeria. This is due to the fact that engaging with OER activities among the university lecturers does not only increase their productivity in the job service but a tendency to attain a highest level of career progression. Furthermore, the quantitative finding measured the construct "performance expectancy" as a determiner for lecturers' acceptance to share OER, how has the construct influence their attitudes toward acceptance to share OER in the selected Universities of Northeast Nigeria? This was handled by the Qualitative finding of research question five (5a) which revealed that lecturer's attitude to share OER was influenced by a number of related themes which signifies that; high expectation for an increased academic skill by engaging in creating a high-quality teaching and learning courseware and skill for developing publishable resources influence their attitude to share knowledge on OER repository. This implies that lecturers consider expectation for an increased academic skill as a motivational factor that influence knowledge sharing attitude where the stronger the expectation, the more likely that positive attitude will be sustained. Similarly, a silent feature of performance expectancy variable that emerged from the participant's interview is lecturers' inherent belief about sharing itself. For instance, the administrators see knowledge sharing on OER as an opportunity accorded to lecturers to increase their digital presence; to be known institutionally by their colleagues and students, and internationally by colleagues in the profession.

The position of this finding in the literature was not alien as Kandiero (2015) reported

Performance Expectancy, Effort Expectancy and Social Influence as having a statistically significant positive influence on the educators' behavioural intention to adopt and use OER. Similarly, the finding agrees with Padhi (2018) whose results indicated that performance expectancy and effort expectancy positively impacted on intentions to use OER. Additionally, the finding also agrees with the finding of Liebenberg et al., (2018) who reported that Performance Expectancy, Facilitating Conditions and Effort Expectancy showed high practically significant relationships with Behavioural Intention.

Quantitative findings of research question two revealed that effort expectancy variable influence lecturers' acceptance to share OER in the selected Universities of Northeast Nigeria. The finding shed more light on the previous construct which affirmed that apart from lecturer's expectation for an increased job performance from engaging with OER, the ease to which sharing is accompanied with also shows that OER is a strong determiner for its acceptance among university lecturers in northeast Nigeria. However, if effort expectancy is a strong determiner for lecturers' acceptance to share OER, could it also be a strong determiner for their attitude to share knowledge on the repository? The Qualitative findings of research question five (5b) on effort expectancy construct revealed that lecturer's attitude to share OER was influenced by a number of related themes. For instance, the availability of free access to internet services within the university, the responsive nature of passwords and the URLs for visiting OER repositories, the lecturers' skills for selecting relevant OER for possible mixing and reusing and the friendly nature of the OER repository environment all contributed toward influencing attitude to toward sharing. The interviewed participants related additional underlying effort expectancy variables such as lecturer's personal, technical and financial effort if meted by the university administration will influence attitude toward knowledge sharing on the repository. The finding is in agreement with Liebenberg et al., (2018) whose finding showed that Effort Expectancy has a practically significant relationship with Behavioural

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Intention. Thus, as effort expectancy is adjudged to be a stronger determiner for acceptance to share OER by the quantitative finding, it was also adjudged to be a strong determiner for lecturers' attitude to share knowledge on OER repository.

Quantitative findings of research question three revealed that social influence variable has impact on lecturers' acceptance to share OER in the selected Universities of Northeast Nigeria. The construct is based on the fact that university lecturers are existing as departments and faculties led by the most senior professionals; the setting naturally favors a harmonious working relationship to which social influence prevails. The harmonious working relationship provides that mentorship be given to the younger lecturers in terms of teaching, research, community service and administrative skills. In such situation, it could be difficult for younger lecturers to see their mentors sharing OER without them being overwhelmed to do so. Thus, social influence variable is a strongest determiner for lecturers' acceptance to share OER in northeast Nigeria. Nevertheless, if social influence is a strong determiner for lecturers' acceptance to share OER, could it be a determiner for their attitude to share knowledge on the repository? The Qualitative finding of research question five (5c) validated the previous quantitative finding with an affirmation that faculty members visit OER repository to see the available resources in which many were shared by their colleagues. Without being invited by the OER community to register their resource presence in the repository, they see it as a culture of the university to share or be levelled with academic laziness. Additionally, lecturers are aware that students find it difficult to access relevant resources for learning, their attitude toward sharing becomes empathetic to students. This implies that social influence is both quantitatively and qualitatively adjudged to be a strong determiner for acceptance to share OER among university lecturers in northeast Nigeria. However, despite the harmonious working relationship, interview data unveiled a socially inclined fact not revealed by the quantitative finding; that an appreciable number of lecturers share OER to impress their

senior colleagues or the university administration while a significant few turn away from sharing OER due to pre-existing political clash of interest with the leadership of the departments, faculties or the entire university.

The finding is supported by the earlier finding of Hayman (2018) who reported that respondents are familiar with concepts and practices of OER use as part of their course selection routines and their attitude toward OER was positive. Similarly, the finding of Daud et al., (2015) also reported that attitude, normative norm and perceived behavioural control were found to have significant effect on knowledge sharing behaviour of academic staff. The finding was also supported by Panda and Santosh (2017) who indicated that faculty had a positive inclination towards sharing knowledge and learning resources and believed that the learning resources should be made available free of cost to all. The results also indicated that a large percentage of faculty members (91%) recognized that sharing knowledge and learning resources is helpful in research and teaching activities and are aware of the importance of sharing within the faculty.

Quantitative findings of research question four revealed that facilitating condition variable has impact on lecturers' acceptance to share OER in the selected Universities of Northeast Nigeria. The construct is based on the fact that lecturers are satisfied with the technical infrastructure such as the university repository, the internet services made available, the reward system and the institutional policies put in place for the uptake of OER activities. Though, few lecturers indicated concern for the university's shortage in power supply, the availability of OER administrators, technical assistants and related support services within the university as a possible barrier to OER uptake. However, the protagonist stated that the technical infrastructure provided by the universities is enough to facilitate acceptance to use OER. Hence, facilitating condition variable is a strong determiner for lecturers' acceptance to share OER in northeast Nigeria. Nonetheless, if facilitating condition is quantitatively a strong determiner for lecturers' acceptance to share OER, could it determine their attitude toward

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knowledge sharing on the repository? The Qualitative findings of research question five (5d) supported the quantitative finding with additional fact from the interviewed participants stating that there are lecturers whose access to computer and related devices and getting connected to internet becomes a challenge. This challenge was ingrained in the devices they used for accessing OER which is the laptop. The inherent challenge of using a laptop is that it is cumbersome to use it on the go, its battery depletes in few hours and the users are mostly the senior colleagues who are highly engaged with administrative routines than visiting OER repository.

The finding is supported by the earlier finding of Yogesh et al., (2017) whose finding showed that attitude: was central to behavioural intentions and usage behaviours, partially mediated the effects of exogenous constructs on behavioural intentions, and had a direct influence on acceptance and usage behaviours. Similarly, the finding of Ozdemir and Bonk (2017) revealed that the time required to search, select, edit, and apply OER was discovered as the greatest challenge to OER adoption and utilization among university lecturers. While Hayman (2018) finding indicated respondents as being familiar with concepts and practices of OER use as part of their course selection routines and their attitude toward OER was positive. However, the finding of Percy and Belle (2016) revealed that Facilitating Conditions do not have a statistically significant impact user's intention to adopt OER.

Conclusions

Performance expectancy, effort expectancy, social influence and facilitating conditions variables collectively influence lecturers' acceptance to share OER in the selected Universities of Northeast Nigeria.

Recommendations

1. As university lecturers recognized OER to be of significant value in increasing their performance personally and professionally, the university management should consider OER policy adjustment to be centered around actualizing lecturers career

progression to include promotion, book development project, courseware development project, Institution Based Research (IBR) grant and award for community service in order to sustain OER activities in northeast universities.

2. In view of the university lecturers concern on the technical effort needed to navigate through the OER repository, the university administration should organize OER workshop to educate lecturers on its flexibility. The workshop will invariably acquaint lecturers on the various aspects of the repository interface and how to navigate through the process of uploading and downloading resources irrespective of their computer skill and background.

3. Considering the impact of social influence variable on acceptance to share OER, the university administration in conjunction with the Deans and Head of Departments should strengthen the culture of mentorship already existing in the universities to ensure that a harmonious working relationship is maintained. This is important for OER projects to be successful because, the 5Rs which denotes freedoms accorded to lecturers to retain, reuse, revise, remix and redistribute OER resources require collaboration and team work.

4. Despite the existence of university OER repository, the available internet services and the institutional policies put in place, the university management should find a lasting solution to shortage of power supply, train more OER administrators, provide technical assistants and related support services to facilitate uptake of OER.

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