



Assessing Determinants of Lecturers' Utilization and Attitude Towards Open Educational Resources in Universities of North-East, Nigeria

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Abstract

The study assessed the Determinants of Lecturers' Utilization and Attitude Towards Open Educational Resources (OER) 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). 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 closed ended questionnaire and focus group interview protocol. The instruments were validated by experts and subjected to reliability test using Cronbach's alpha. Mean (\bar{x}) and standard deviation (SD) was used to answer research question one to four for quantitative variables. Thematic analysis was used to answer research question five for qualitative variables using 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' use of shared OER. The study recommended among others that the University management should build on the provisions of the construct by strengthening the culture of knowledge sharing on OER repository among faculties.

Keywords: Open Educational Resources, Utilization, Attitude, UTAUT constructs.

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Introduction

Universities worldwide are known to generate new knowledge and share it for public use in order to develop minds and societies. In traditional knowledge sharing culture ingrained in universities, the process encompasses organising public lectures, conferences, workshops, seminar series and inaugural lectures mostly on face-to-face basis. On passive mode; journals, conference proceedings, communique and compendiums are shared on print and online basis for use by academics through academic libraries. Recently, Open Educational Resources (OER) as an internet-based global repository has digitized the process to which educational resources are shared. Now, resources such as curriculum maps, course materials, textbooks, streaming videos, multimedia applications, podcast, and any other materials that have been

designed for use in teaching and learning which are made openly available for use by educators and students can be shared through OER without the accompanying need to pay royalties or licence fees (Wiley, 2015). With these offerings, OER could possibly increase access to resources, contribute to social inclusion, gender equity and support education for the special needs, in addition to improving cost-efficiency and quality of teaching and learning. Presently, OER declaration had directed all countries of the world to release teaching, learning and research materials developed with public funds under an open licence to allow their reuse, revision, remixing and redistribution without the permission of the copyright holders (UNESCO, 2012). In line with this declaration, the Federal Ministry of Education (FME) have formerly released OER Policy for Higher Education in Nigeria which



mandated all Nigerian Universities to create and use OER to increase access and support quality teaching, learning and research (FGN, 2017). By this policy, Higher Education regulatory agencies and all Higher Education Institutions in Nigeria shall be committed to the philosophy of OER in raising awareness, building capacity and fostering positive attitudes among educators, learners and researchers. While it is not necessary that policies are developed first, having policies in place helps in avoiding ad-hoc practice and provide a legal framework for OER implementation (Kanwar & Mishra, 2017).

In response to this policy, universities in Nigeria have already introduced OER repository and mandated lecturers to upload teaching and learning resources under their possession for public use (OER Policy, 2017). Utilization of OER is closely related to how frequent lecturers deposit digitised resources in OER repository at one end, and how co-lecturers and students reuse, revise, remix, and redistribute the shared OER. This means that OER is not limited to uploading resources in the university OER repository but extended to include downloading the shared OER and using it to a particular teaching, learning and research purposes. Previous studies by Panda and Santosh (2017) have shown how university lecturers use of OER suffer from unpredicted challenges that have either slow its wider adoption or stand being rejected completely. Chen (2017) reported that the challenge of ascertaining lecturers' behavioural intention to use OER has also been considered to be a major concern to university management and are often left in contemplation as to why lecturers remain reluctant to share and use digital resources via OER. Studies on lecturers' use of OER as resource sharing environments and attitude to resource sharing have been rather shallow within a specific university in north east Nigeria (Igwe, 2020).

Despite the paucity of research in OER domain, studies indicated that it is yet to become an integral part of educational practice in Nigeria and its utilization by lecturers and students has not been as smooth as predicted (Nayantara, 2018). For OER to become *modus operandi* in Nigerian universities, it must be used as a

repository for resource sharing by university lecturers whilst exploiting all the possible opportunities it has to offer. Chen (2017) commented that using OER as a resource sharing repository require empirical understanding of OER, antecedents of lecturers' attitude to OER and determinants that explain their behavioural intention to use it.

In understanding the determinants that explain lecturers' intention to use OER in 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' use of OER. Building on the theoretical constructs, Performance expectancy refers to the extent to which educators believe that sharing and using 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' utilization of OER without the support of their effort expectancy. Effort expectancy refers to the degree of ease associated with utilization of shared OER and the level of easiness and flexibility of sharing content via OER (Davis, 1989). In line with lecturers' effort for OER activities, Wiley, (2015) emphasized on 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. While effort toward sharing and using the shared OER is also linked to lecturers' social norms, these norms could equally influence utilization of OER. Social influence refers to the degree to which lecturers perceived that there is an expectation by the university management, senior colleagues, faculty and students to share and used OER. However, the three preceding constructs, performance expectancy, effort expectancy and social influence could not deliver OER utilization without having an enabling environment. These enabling environment Venkatesh *et al.*, (2003) referred them as facilitating conditions.

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). The research study seeks to establish the possible influence of these theoretical construct on lecturers' utilization of OER. Quite a few studies have been carried out on the determinants of Lecturers' Utilization and Attitude towards OER in Nigeria and western geographies (Ozdemir & Bonk, 2017; De-Oliveira *et al.*, 2017; Wolfenden *et al.*, 2017; Hayman, 2018). These studies revealed that participants would consider using OER related to their discipline as indicated by the UTAUT constructs. The result of the qualitative interview indicated 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.

Statement of the Problem

Institutional OER policy require lecturers to upload resources and utilize the existing resources on the repository. However, lecturers' compliance to OER directive is slow in spite of the university managements' commitment towards encouraging lecturers to contribute resources on the University-based OER repositories (Percy & Belle, 2016). A group of existing literature on the trends of OER utilization shows that lecturers are mincing words regarding sharing their resources as OER in Nigeria (Igwe, 2020; Ofoegbu, et al., 2021). 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. Likewise, additional evidence for lack of OER utilization could be attributed to lecturers' attitude toward sharing. Previous studies have overlooked the antecedents of lecturers' attitude toward knowledge sharing on OER repository (Yogesh *et al.*, 2017; Zhang & Li, 2017 & Padhi, 2018). While this study prioritizes lecturers' attitude to be central to OER utilization. Understanding what could stimulate lecturers use of shared OER and attitude toward sharing resources is the

problem of this study. It is against this background that this study sought to assess the determinants of lecturers' utilization and attitude towards open educational resources in Universities of North-East, Nigeria.

Objectives of the Study

The aim of this study is to assess the determinants of lecturers' utilization and attitude towards open educational resources in Universities of North-East Nigeria. The objectives of the study are to examine;

1. The influence of performance expectancy on lecturers uses of shared OER in the selected Universities of Northeast Nigeria.
2. The influence of effort expectancy on lecturers uses of shared OER in the selected Universities of Northeast Nigeria.
3. The impact of social influence on lecturers uses of shared OER in the selected Universities of Northeast Nigeria.
4. The influence of facilitating conditions on lecturers' use of shared OER in the selected Universities of Northeast Nigeria.
5. The influence of performance expectancy, effort expectancy, social influence and facilitating conditions on lecturers' attitudes toward knowledge sharing on 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' use of OER in the selected Universities of Northeast Nigeria?
2. What is the influence of effort expectancy on lecturers' use of OER in the selected Universities of Northeast Nigeria?
3. What is the impact of social influence on lecturers use of OER in the selected Universities of Northeast Nigeria?
4. What is the influence of facilitating conditions on lecturers' use of OER in the selected Universities of Northeast Nigeria?
5. How do the determinants influence lecturers' attitudes toward use of shared OER in the selected Universities of Northeast Nigeria?



Methodology

The study employed a concurrent embedded mixed method design. The design has a primary method (quantitative) that guides the study and a secondary method (qualitative) that provides a supporting role. The study begins with a

survey in order to generalize findings on the population and the second phase, focuses on qualitative, open-ended focus group interview where detailed views from participants collected to explain the initial quantitative survey. The study design is visually illustrated in figure1.

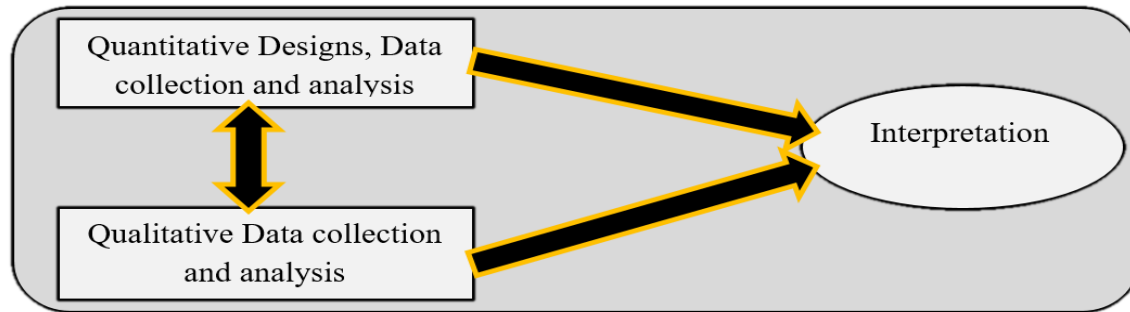


Figure 1: Visual illustration of Concurrent Embedded Mixed Methods Design
Source: Adopted from Creswell & Creswell, (2018).

For this study, both quantitative (broad numeric trends) and qualitative (detailed views) approaches was combined to better understand the research problem. In addition, insights gained from the interview of a small subsample of lecturers holding administrative offices regarding their attitude toward resource sharing

on OER was used to further examine their level of use. Thus, the two components of the study are complementary in that the qualitative component attempts to expand upon and cross-check the validity of the quantitative results. Figure 2 shows a visual illustration of the design layout.

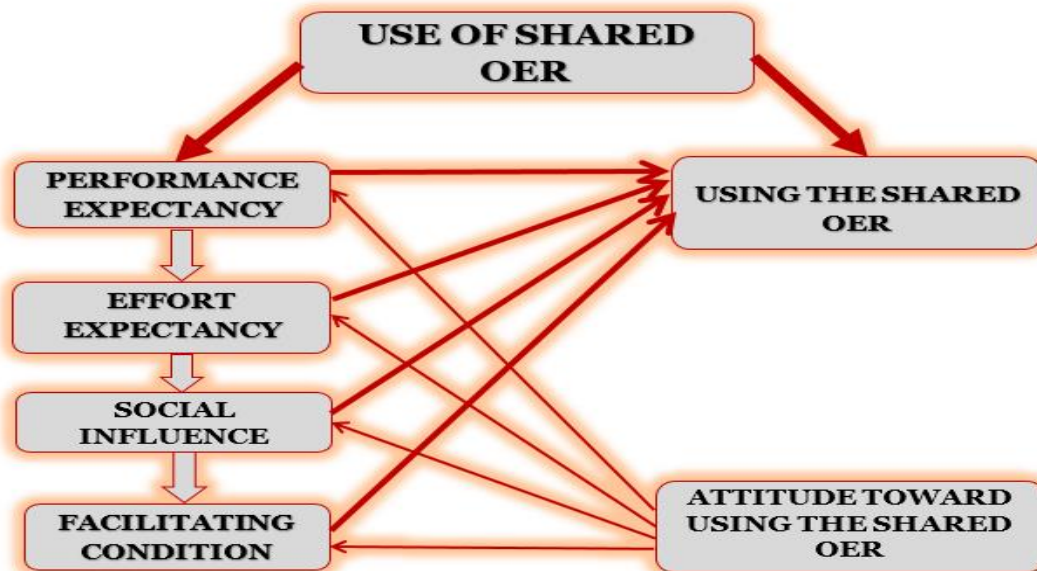


Figure 2: Pattern of Research Design
Source: Researcher, 2021



The population of this study consisted of all lecturers in the six (6) Federal Universities of North-East Nigeria. The target population consist of six hundred and thirty-two lecturers in faculties of education in the six Federal Universities in North-East Nigeria. The choice of lecturers in faculties of education is based on the consideration that: OER is a subset of educational technology and a sibling of open source software (Kanwar & Mishra, 2017); educational technology experts are housed in faculties of education and are more conversant with the design and development of digital resources such as videos, animations, graphics, PowerPoint presentations and courseware.

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 three universities were purposively selected based on the functionality of the OER repository from the six Federal Universities in north-east Nigeria. The sample for the qualitative method consisted of 21 lecturers holding administrative positions like the Deans, head of Departments and Directors in their respective universities using a homogenous sampling procedure. The instruments used in the study were structured closed ended questionnaire and open-ended focus group interview protocol.

The questionnaire titled Lecturers Use of Open Educational Resources (LUOER) was adapted from 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 as the qualitative approach. The questionnaire was already validated by the OER community and further subjected to face and content validation by experts. The focus group interview protocol was validated by the same experts that validated the questionnaire. The experts ascertained the appropriateness, the simplicity of the language and the clarity of the scale statements. Based on these, some of the scale statements were re-worded in response to the views and comments of the assessors.

To ascertain the reliability coefficient of the instruments, a pilot study was conducted on sixty (60) university lecturers purposively selected from Federal University of Kashere, Gombe State. The lecturers are part of the population but not included in the sample to be studied. The questionnaire items were administered to the respondents once through paper based and online google form. The retrieved questionnaire was subjected to Cronbach's alpha (α) analysis with the aid of SPSS version 23.0. The reliability coefficient of the constructs for lecturers' use of the shared OER was; $\alpha = .973$ for Performance Expectancy, $\alpha = .958$ for Effort Expectancy, $\alpha = .962$ for Social Influence, $\alpha = .947$ for Facilitating Conditions and $\alpha = .960$ for use of the shared OER. The calculated Cronbach's alpha coefficients showed an excellent reliability and all the items across the constructs are worthy to be retained. Based on Cronbach (1951) rule of thumb, the instrument is considered reliable and adequate for the study. 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. The participants were informed about the purpose of the interview and were encouraged to make suggestions that further improved the instrument. Multiple investigators of two lecturers were used in collecting, transcription, coding and interpreting the data. The use of multiple observers allows for crosschecking observations to make sure the investigators reach agreement about what took place during the interview. The outcome of the two investigators was coded as rater one (R_1), and rater two (R_2) and were assigned a numerical value to qualify the data for Cohen's kappa interrater reliability analysis with the aid of SPSS version 23.0. The result of the analysis showed that Cohen's $\kappa = .688$ with $p < 0.002$ was obtained indicating a substantial measure of agreement between the two raters' judgement on lecturers' attitude toward the use of shared 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 analysed using descriptive statistic; simple percentages (%), Mean (\bar{X}) and standard deviation (SD) was used to answer research questions one to four 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. Similarly, thematic analysis was used to answer research question five for the qualitative data with the help of Atlas ti. Version 9.1.

Results

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

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

S/N	Statements	N	\bar{X}	SD	Decision
1	Using the shared OER will enhance my teaching effectiveness.	338	3.29	1.447	Agree
2	Using the shared OER will improve the quality of my research work.	338	3.36	1.421	Agree
3	Reusing OER shared by co-lecturers will save me time in developing lecture materials.	338	3.38	1.297	Agree
4	Remixing the shared OER will improve my course development skills.	338	3.38	1.289	Agree
5	Using the shared OER will allow me to have access to current information about the courses I teach.	338	3.36	1.406	Agree
6	Using the shared OER will give me variety of resources that will increase the quality of courses I developed.	338	3.39	1.357	Agree
7	Redistributing OER will increase my academic network and sphere of influence.	338	3.30	1.384	Agree
Cumulative mean			3.35		Agree

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' use of OER in the selected Universities of Northeast Nigeria. The table reveals that the mean responses to each of the items (ranges from 3.39 to 3.29) were consistently above the decision mean of 3.0. Similarly, the cumulative mean score of 3.35 was obtained for the 7 items in which item 6; "using the shared OER will give me variety of resources that will increase the quality of courses I developed", item 3; "reusing OER shared by co-lecturers will save me time in developing lecture materials" and item 4;

remixing the shared OER will improve my course development skills" as the most important contributors to performance expectancy variable on lecturers' use of OER. Since, the cumulative mean is above the decision mean, this implies that respondents are in agreement with the statements. Hence, performance expectancy variable influence lecturers' use of OER in the selected Universities of Northeast Nigeria.

Research question two: What is the influence of effort expectancy on lecturers' use of OER in the selected Universities of Northeast Nigeria?



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

S/N	Statements	N	\bar{X}	SD	Decision
1	The flexibility of the university OER repository allows me to use my computer, tablet and mobile phone to access the shared OER.	338	3.16	1.270	Agree
2	Navigating through the university OER is with less stress.	338	3.13	1.289	Agree
3	It is easy for me to become skilful at reusing, revising and remixing OER.	338	3.22	1.305	Agree
4	I find downloading and using the shared OER easy.	338	3.29	1.265	Agree
5	Using OER will enable me to accomplish course development activities more rapidly.	338	3.37	1.292	Agree
6	I find it is easy to search for a usable OER that can suit my class.	338	3.24	1.272	Agree
7	My students do not find it challenging to download OER I shared for their use.	338	3.21	1.307	Agree
Cumulative mean			3.23		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' use of OER in the selected Universities of Northeast Nigeria. The table reveals that the mean responses to each of the items (ranges from 3.16 to 3.37) was consistently above the decision mean of 3.0. Additionally, a cumulative mean score of 3.23 was obtained for the eight items in which downloading and using the shared OER being easy and enable them to accomplish course development activities more rapidly and the ease to which searching for a usable OER that

can suit their teaching courses turned out to be the most important effort expectancy variable. Since, the cumulative mean is above the decision mean, this implies that respondents are in agreement with the statements. Hence, effort expectancy has influence on lecturers' use of OER in the selected Universities of Northeast Nigeria.

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

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

S/N	Statements	N	\bar{X}	SD	Decision
1	My co-lecturers in the university think I should use the shared resources on OER repository to develop my lecture notes.	338	3.03	1.284	Agree
2	My senior colleagues in the university are expecting me to adapt resources from OER repository to enrich my lecture contents.	338	3.12	1.257	Agree
3	My students in the university think I should use OER repository to share teaching resources.	338	3.27	1.248	Agree



4	My mentees in the university think I should remix variety of resources from OER for their academic guidance.	338	3.25	1.262	Agree
5	Lecturers who are important to me in the university think I should use OER to reduce the time spent in course development.	338	3.25	1.268	Agree
6	My students who have concern for computer virus think I should use OER repository as a sharing medium.	338	3.17	1.295	Agree
7	My Head of Department think I should use the shared resources on OER as directed by the university administration.	338	3.25	1.290	Agree
Cumulative mean			3.19		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' use of OER in the selected Universities of Northeast Nigeria. The table reveals that the mean response to each of the items (ranges from 3.03 to 3.27) was consistently above the decision mean of 3.0. Additionally, a cumulative mean score of 3.19 was obtained for the seven (7) items to which students, mentees, lecturers and Head of Department discerning inspiration on lecturers to use the shared resources on OER as directed by the university administration collectively

contributed more to the social influence variable. Since, the cumulative mean is above the decision mean, this implies that respondents are in agreement with the statements. Hence, social influence has impact on lecturers' use of OER in the selected Universities of Northeast Nigeria.

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

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

S/N	Statements	N	\bar{X}	SD	Decision
1	I have computer and the internet skill necessary to remix and redistribute teaching resources on OER.	338	3.20	1.384	Agree
2	The availability of technical assistants stimulated me to integrate OER into my courses.	338	3.20	1.336	Agree
3	The OER policy directive encourages me to use OER.	338	3.36	1.271	Agree
4	The expected reward from the university management will encourage me to use the shared OER.	338	3.22	1.370	Agree
5	The availability of OER repository on handheld devices will encourage me to use it.	338	3.24	1.300	Agree
6	The friendliness of the OER repository interface will inspire me to use the shared resources on OER.	338	3.22	1.400	Agree
Cumulative mean			3.24		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' use of OER in the selected Universities of Northeast Nigeria. The



table reveals that the mean response to each of the items (ranges from 3.20 to 3.36) was consistently above the decision mean of 3.0. Additionally, a cumulative mean score of 3.24 was obtained for the six items in which the availability of OER repository on handheld devices, the friendliness of the OER repository interface, the expected reward from the university management and the OER policy directive collectively contributed to facilitating

conditions variable for lecturers' use of OER. Since, the cumulative mean is above the decision mean, this implies that respondents are in agreement with the statements. Hence, facilitating conditions has influence on lecturers' use of 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.

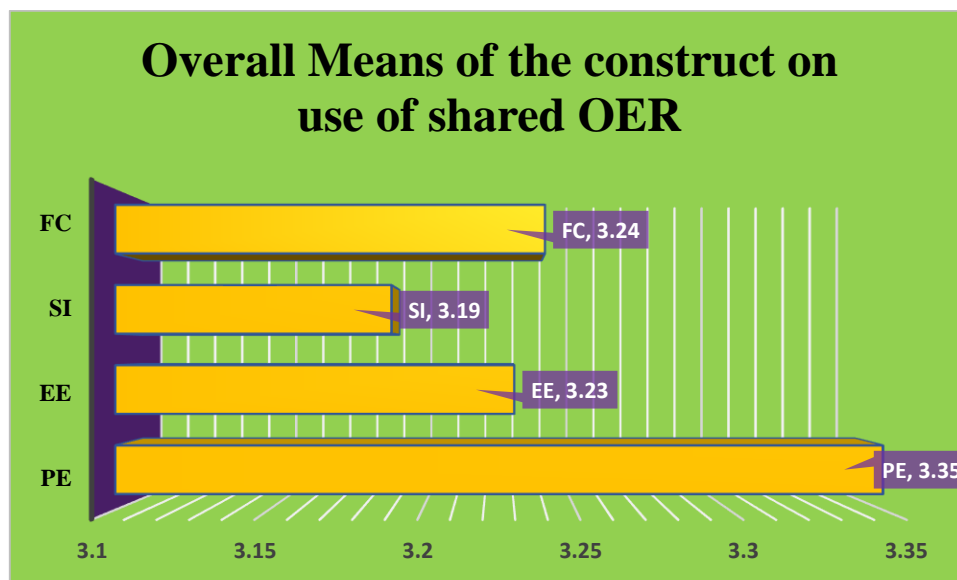


Figure 3: Summary of the overall means of the constructs on acceptance to share OER.

The column chart in figure 3 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 four: How do the determinants influence lecturers' attitudes toward use of shared OER in the selected Universities of Northeast Nigeria?

Performance Expectancy: the participants were asked to comment on "How they considered lecturers' expected productivity outcomes as a result of engaging with OER to influence their attitude toward using the shared lecture notes, streamed videos and research findings?" The result from the interview analysis revealed that using OER have the capacity to increase

lecturers' productivity in the university. Accordingly, continued usage invariably stimulates attitudinal change especially now that lecturer's expectation for an increased job performance and career progression remained clear. For instance, many lecturers now visit the OER repository, download and modify resources to meet the requirement of their students' needs. An excerpt from a participant stated that;

"Yes, job performance expectation from the use of OER had really influence lecturers' attitude towards sharing and using the shared OER. This is because, in my institution, the management want to see the number of articles contributed by each lecturer within a specified timeframe for upward promotion."

From the expert's submission, a number of related themes emerged mirroring performance expectancy as shown in table 5.



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

S/N	Theme	Description	Significant findings
1	Increase job performance	As OER is put to use by lecturers, job performance increases exponentially.	Performance expectation of lecturers from OER usage influences their attitude toward using the shared OER.
2	Expectation for career progression	Lecturers stand to enjoy promotion from sharing or using the shared OER.	Expectation for career progression stimulate lecturers' attitude toward continue usage of OER.
3	Skills development	Development of lecturers' skills from using OER.	Expectation for skill development stimulate lecturers' positive attitude toward using OER.
4	Reduce time for resource development	Resources available on the repository reduce lecturers time for developing new ones.	Lecturers expect that the shared OER on the university repository will reserve their energy and time for developing new ones.

Source: Field interview

Table 5 revealed that expectation for an increased job performance, career progression, skill development and lecturers time and energy reserved for developing new resources for teaching jointly influence attitude toward

knowledge sharing activities on OER repository. The codes and quotation network of the constructs on use of shared OER was graphically presented in figure 4.

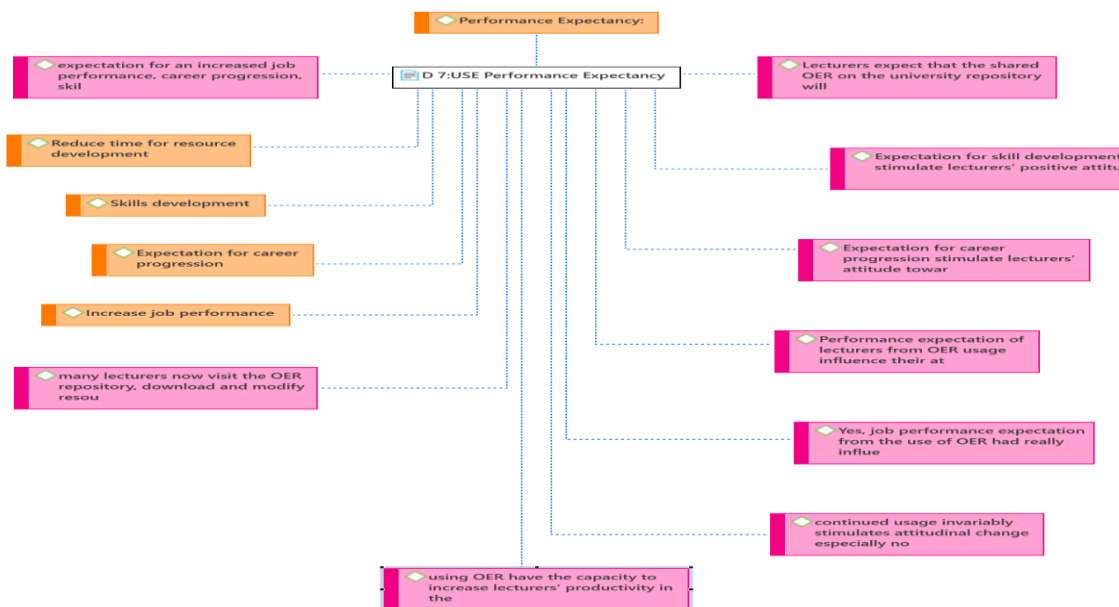


Figure 4: Codes and Quotation network of the constructs on use of shared OER

Discussion of findings

Quantitative findings of research questions revealed that performance expectancy variable influence lecturers' use of OER in the selected

Universities of Northeast Nigeria. Thus, as lecturers continue to develop and share resources on OER repository, they stand to benefit from an increased performance both



personally and professionally. This is based on the fact that skill development is perfected through practice; knowledge is perfected through sharing while failure to do the two does the opposite. In OER utilization, lecturers are involved in downloading a shared resource, reusing it as it is or with modifications, remixing it with other OERs, revising the entire document to suit one's needs, retaining it as one's own and redistributing it to others so as to incorporate them into their teaching materials. The process forces lecturers to acquire additional computer and internet skills, research skills and analytical thinking for the successful development and deployment of OER with anticipation of career advancement. Now that quantitative finding was gauged to be a determiner for lecturers use of shared OER, how has the construct influence lecturers' attitudes toward use of shared OER in the selected Universities of Northeast Nigeria?

The qualitative findings of research question five substantiated the quantitative findings by unveiling the benefits lecturers derived by the open permissions to use and reuse OER while developing new resources. The engagement with open contents enjoyed by open permissions gives lecturers a cutting-edge advantage over the use of copyrighted materials leading to performance enhancement, career progression, skill development and time saving for developing new OERs. These underlying qualitative findings collectively influence lecturers' attitude to use the shared OER thus, illuminating the earlier submission of quantitative finding that the construct "performance expectancy" is a significant predictor of lecturers' use of shared OER. Supporting these proclamations, the interviewed administrators were able to share ways that they grew across ranks both personally and professionally and were able to extend their impact through the department, faculty, the entire campus, and even nationally and internationally in the absence of OER. As OER recently comes on board, they did not see its use by lecturers with negative connotations rather, they see it as a potential career awareness and advancement tool for their practice.

The finding is supported by Kandiero (2015) whose finding indicated that Performance Expectancy, Effort Expectancy, Social Influence have a statistically significant positive influence on the educators' behavioural intention to adopt and use OER. Similarly, the findings of Percy and Belle (2016) also indicated that Performance Expectancy and Effort Expectancy have a positive effect on a user's Behavioural Intention to use OER, and the latter has a strong influence on the actual use of OER. The finding of this study also corroborated the finding of Hayman (2018) who also revealed that participants would consider using OER related to their discipline. The interview findings indicated 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. However, the finding of Wolfenden *et al.*, (2017) indicated that teacher educators' understanding and use of OER is highly fragmented, with little traction at department or institutional level. There were also numerous structural and cultural factors acting to limit agency with regards to OER use.

Conclusions

Performance expectancy and social influence has the strongest influence on lecturers use of shared OER; believing that engaging with OER increased their chances for academic skill development and that can be achieved with little effort. In the same way, social interaction with colleagues about sharing and the presence of resources shared by co-lecturers on the repository has a promising future for OER utilization. However, effort expectancy and facilitating conditions were rated next to the preceding variables, bearing in mind that challenges regarding device access, availability and speed of internet bandwidth and electricity outage still exist which hinder OER utilization in the selected Universities of Northeast Nigeria. Similarly, Performance expectancy, effort expectancy, social influence and facilitating conditions variables collectively influence lecturers' attitudes toward using the knowledge shared on OER repository in the selected Universities of Northeast Nigeria.



Recommendations

Given the positive direction of the constructs in determining lecturers' utilization and attitude toward knowledge sharing on OER repository, University management should 1. Adjust institutional OER policy to support lecturers' career progression; 2. Organize OER workshop to educate lecturers on the flexibility of OER

repository and the amount of effort needed to use it; 3. Strengthen the culture of mentorship to ensure that a harmonious working relationship is maintained and 4. 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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