

**RELATIONSHIP BETWEEN STUDENTS' PERCEPTIONS AND UTILIZATION OF OPEN EDUCATIONAL RESOURCES FOR ACADEMIC WORK IN PRIVATE UNIVERSITIES IN KENYA**

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**Abstract**

Teaching and learning resources in the competitive world of higher education were often considered as key intellectual property accessible exclusively to privileged groups of students and instructors. Today, an increasing number of institutions and individuals share digital resources via the Internet free of any legal, financial or technical barriers. As such, open educational resources may be part of a solution to this problem. The purpose of this study was to establish the relationship between students' perceptions and utilization of open educational resources for academic work in private universities in Kenya. The study used the correlational research design. The study targeted 5,375 undergraduate part time students. While the accessible population was 2716 bachelor of Education part time students drawn from five private universities purposively chosen. Proportionate sampling was used to determine the subjects from each university. Simple random sampling was used to select respondents from the 3<sup>rd</sup> and 4<sup>th</sup> years. Data was collected using students' questionnaire and focus group discussion groups. There was also a positive relationship between utilization of open educational resources and students' perceptions on open educational resources and therefore the relationship is significant ( $r(321) = 0.394; p < 0.05$ ). This means that the more students have positive perceptions on the open educational resources the more they will use open educational resources for academic work. Descriptive statistics (percentages and frequencies) were used to analyze quantitative data while Regression analysis was used to test the hypothesis.

**Keywords:** Perceptions, Utilization, Open educational Resources, Information Communication and Technology

## Background to the Study

Globally, education has been seen as a catalyst for competitiveness, social transformation, wealth creation, and national development (Bloom, Canning & Chan, 2006). Equally, the global communities of education, the Commonwealth of Learning (COL) and United Nations Educational, Scientific and Cultural Organisation (UNESCO) recognize that education is the foundation towards the achievement of the 2030 sustainable social and economic development goals (UNESCO, 2015a). In this regard, both developed and developing countries continue to invest more resources in education. Nevertheless, demand for education, especially in developing countries continues to grow thus widening the gap between supply and demand. The prospective trend in developing countries is that the need for access to higher education continues to increase while available resources seem to be on decline (Monica, 2010). Due to the need, higher education (HE) in Kenya has been expanding rapidly.

Prior to the advent of openness information resources were locked up behind passwords within copyrighted systems for quite some time (Thakrar, Zinn and Wolfenden (2009). Such materials were not accessed by the interested learners who either had to pay or subscribe (Organization for Economic Cooperation and Development (OECD, 2007). With the advent of open educational resources (OERs), scarcity of information resources, high cost of information resources and barriers to academic information access were broken down and thereby enabling free sharing of content since the year 2002 (Hylén, 2006; Wright & Reju, 2012). The situation today has significantly changed since most tertiary institutions in developing countries Kenya inclusive are to some extent involved in innovative learning programs that take advantage of the advancements of ICT. Universities now have some form of Open, distance and e-learning programs. They have got also online repositories of their research and instructional materials with varying degrees of intellectual property rights with some resources being open access (Adala, 2016).

In Kenya, teachers are either trained through pre-service or in-service modes such as, regular, part time-based, distance modes and open and distance education. Most of the English speaking countries in Africa train teachers through a mix of text materials, residential training sessions and local tutorials (Mulkeen, 2010). Such modes demand for availability of resources and reference materials so as to develop the student teaching skills and practices. As a result information communication and technology has brought about the access to some of the required resources considering the many different modes of study and openness in informatics.

Cheung and Hew (2013) in their study done in Singapore on use and production of open educational resources amongst undergraduate students' established that 17 respondents out of the 25 respondents indicated that they used OERs to a great extent. When the respondents were asked what made them choose specific OERs a majority (75%) of them reported that they consider the institution or organization that created a particular resource. This means that the good the reputation of an institution the more its OERs will be accessed. The researchers further noted that research on students' use of OER has majorly been done around developed nations like USA and Britain ignoring Asian and African countries. Therefore, this calls for research into characteristics of students and use of OERs in Kenya.

Kenya is a signatory to the UNESCO's 2012 Paris Declaration on Open Education Resources licensed under Creative Commons open licenses. Thus students from Kenyan institutions of higher learning are part of OERs in terms of utilization. However, there are a number of factors required for effective utilization. Among them are; awareness, perceptions, readiness, increased broadband availability, increased quality of devices used by learners, infrastructural development, institutional policies, availability of time, lower cost of internet connectivity, among others (OECD, 2007). This paper will be studying the relationship between students perceptions of OERs and their use in the academic work.

### **Statement of the Problem**

Higher educational institutions in Kenya are faced with unprecedented challenges in meeting the ever increasing demand for initial and continuing education, such as rising costs of producing and acquiring learning resources. Part time Bachelor of education students mostly rely on the notes given by lecturers, manuals and not commercial textbooks from the bookshops for academic work. This is due to the high costs involved, unavailability of specific core texts and availability of few texts against a big number of students in the libraries. Open educational resources have been seen as an intervention that will increase access to information, improves quality of education, makes learning opportunities more flexible and help cutting down costs of learning resources such as print media. There are lots of studies that have been done in Europe on lecturer's attitudes on OERs, lecturers use and the development of OERs. However, there is little or no research on the relationship between student's perceptions of OERs and their use in the academic work. Therefore this study sought to establish where there exists a relationship between students' perceptions on OERs and their utilization.

### **Objective of the study**

The study was guided by the following objective:

To determine the relationship between students' perceptions on OERs and utilization of OERs for academic work in Kenyan private Universities.

The following Hypothesis was tested for the study.

**H<sub>0</sub>** There is no significant relationship between student perceptions on open educational resources and utilization of OERs for academic work in Kenyan private Universities.

## **Literature Review**

### **Student Perceptions towards Open Educational Resources**

Singh (2009) argues that information communication and technology have brought a tremendous change in nature, boundaries and structure of information. This rapid advancement of ICT has brought a revolutionary change in the information scenario giving rise to a number of options to the users' community to handle varied information sources conveniently and effortlessly. As a result e-resources have become the lively substance to the modern library's reserves in

satisfying varied needs of students, teachers, and researchers with minimum risk and time (Obura, 2010). Most importantly, for better planning, it is vital to have knowledge on the factors influencing students' utilization of OERs. Due to increased technology use, it is important to understand how technologically rich environments are influencing student perceptions toward open education resource utilization.

Many factors do influence perceptions. The introduction of OERs like open access journals, books, manuals, photographs, video clips and other resources for instance is creating attitudinal tendencies towards e-resources. Open access is one of the cheapest routes to electronic resources and over the last few years open access resources have grown and provided learners with an affordable way to access information for academic purposes. Supporters of open access argue that for instance, when academic articles, dissertations and theses are put online and open to all, it helps in fighting duplication and plagiarism of other people's intellectual works.

Research into student perceptions and attitudes towards OERs is sparse, and research indicates the need to be more attentive toward student views, including their desire to share resources and preference for different technical formats (Hurt & Rolfe, 2013). Perceptions towards open educational resource access could be attributed to problems faced when accessing e-resources. For instance in a situation where there is inadequate computer technologies to access e-resources or poor internet connections, students' positive attitudes could be affected. That is why it is of paramount importance that the problems that affect e-resources access are addressed in higher learning institution libraries.

Lindshield and Adhikadri (2013) did a study at Kansas state University to establish the perceptions of a course called 'flexbook' which were utilized in a face to face set up and distance learning program in a course called Human nutrition. 'flexbook' was a digital OER that was adapted by instructors and availed to the learners in different formats. The researchers sampled 322 students who pursued the course on nutrition between the year 2011 and 2012. They established that both students who did the course as online and those that did it in the face to face mode had favourable perceptions of the 'flexbooks' they utilized. On a 7 point likert scale (7 strongly agree) students gave an average response of 6.4 to the question. They also established respondents disagreed with statements which were to the effect that they would like to have traditional textbooks in addition to the OER.

Feldstein, Martin, Hudson, Warren, Hilton and Wiley (2012). In a study titled Open textbooks and increased students access and outcomes in Virginia State University. The researchers surveyed 1393 students who utilized OERs. A total of 315 students responded in the survey, 95 % strongly agreed or agreed that OERs were easy to use and 78 % felt that OERs provided access to content that is up to date than is available in the print text books. Two thirds of the students agreed that OERs were more useful in academic work than the traditional textbooks. This meant that they preferred content that was in OERs than the one in traditional textbooks.

Pitt, Ebrahimi, McAndrew and Coughlan (2013) in a study titled 'Assessing OER impact across organisations and learners in USA: Experiences from the bridge to success project' The researchers examined student perceptions of two pieces of OERs that were used to help student improve their performance in mathematics. A total of 126 of the students who used the OERs took a survey on their perceptions towards the resources. 79 % indicated that they were satisfied

with the quality of the OERs they used whereas 17 % indicated undecided about their satisfaction and a minority of 4 % said they were dissatisfied. This study had one weakness as much as it reported overall positive perceptions on OERs it is coupled with the very low response rate of the survey.

According to Hilton, Gaudet, Clark, Robinson and Wiley (2013) in a study done in USA on the adoption of OERs by one community college. They found that the students were generally positive about open educational resources out of the 2043 of them 491 strongly agreed, 263 slightly agreed, 105 neutral, 28 slightly disagree and 11 strongly disagree. In summary 83% strongly agreed with the statement or slightly agreed on a statement that was given to them. When the students were asked about what additional comments they had about OERs 210 (82%) were positive. They gave statements such as 'great they were good', 'it made work less stressful and learning more enjoyable', and 'quality was excellent'. This meant that they had a positive perception OERs in terms of quality and how the resources are helpful to them.

Allen and Seaman (2014) did a survey among 2144 university professors from the USA regarding their opinions on OERs. They randomly selected faculty members from a database that purportedly includes 93 % of all higher teaching faculty in the USA. A majority of 729 ( 34%) expressed awareness of OERs. 61.5 % of the respondents who were aware said that they trusted the quality of OERs just like the traditional textbooks, however, another 26.3 % said that the traditional textbooks were superior and trusted in terms of quality, 12.1 % said OERs were superior. The respondents were also asked about the efficacy of OERs and traditional textbooks. A majority of 68.2 said both the traditional textbooks and OERs were almost the same while 16.5 said OERs had superior efficacy and 15.3 % said traditional textbooks had Superior efficacy. The perceptions in this study are not giving us lots of information since they were not subjected to further analysis so as to know whether they were significant or not.

The Student Perspectives on Technology Research (NUS 2010) highlighted a number of key findings: students prefer a choice in how they learn. Information, communications and technology (ICT) is seen as one of many possibilities, alongside traditional modes (e.g. full -time study, face-to-face learning contexts) and non-traditional modes (e.g. part-time learning). Opinions about e-learning are fundamentally divided; 90% of students agreed that the Internet has benefited their studies. As to whether ICT had improved their learning experiences, 78% agreed with this statement, with only 5% in disagreement.

According to NUS (2014) students in UK were asked to rate what they understood by the term OERs. A total 82% of traditional learners (Full timers) and 83% of non-traditional learners (Part time) were able to identify at least some of the distinguishing features of OERs in the definitions they gave. There were some notable differences between the traditional and non-traditional students in this regard: twice as many traditional students offered definitions which included all or most of the salient features of OERs (41% compared with 20%), despite a greater preference for use of online resources among non-traditional students (36% versus 18%). These clearly shows that there is a big difference between the students who are in the regular programmes and those who study either in the evening or weekends or holidays and thereby providing a departure point for a study on the utilization of OERs by part time students in Kenya.

Bacsich (2011) highlighted the need for research into learner experiences and learner use of OERs

across the education spectrum, and the need for good quality studies of uniform methodology to build up a robust picture of research into the subject. Hurt and Rolfe (2013) recommend that institutions should understand views and experiences of OERs and online resources to inform strategies and policies therefore there is need to do research on the influence selected factors on the utilization of OERs.

Jhangani and Jhangani (2017) did a study in Columbia post-secondary institutions to establish the perceptions and use of OERs in form of digital textbooks. The researchers did a survey of 320 postsecondary students in Columbia enrolled in courses that use OERs. They sought to establish perceptions of learners on open textbooks including its quality, features they like and dislike, the impact of textbook costs on the learners course enrolment and how they access and use Open textbooks. Sixty three percent (63 %) of the respondents judged the overall quality of OER texts they used to be above average or excellent, 33 % rated it as average, while 3.5 % rated them below average in quality.

Kim, Lee, Lee, and Shon (2015) in a study conducted in Korea University titled Influencing factors in OER usage of adult learners, established that attitude of the students did not have a significant influence on adult learners usage of OERs. The researchers used multiple regression to test the hypothesis and the t value was 0.185 ( $p < 0.01$ ) and therefore the hypothesis was not accepted. This study had its own weaknesses in the sense that it used the theory of Technology Acceptance of Model (TAM) combined with Theory of Reasoned Action (TRA).

Generally from the literature review it is evident that research into relationship between students' perception on OERs and their utilization is lacking. There is a lot that has been done on the perceptions of the faculty and generally on the resources but very little from the users or students perspective.

### **Research Methodology**

The study used correlational research design. This is a design that is used to describe the strength of linear relation and direction of association between two variables (Gay, Mills & Airasian, 2009). The correlational design aims at determining the relationship between two variables, as well as, how strongly these variables relate to one another and that is what was expected of the study.

The population for this study was 5,375 part time students from private universities in Kenya. The accessible population was 2716 third and fourth year Bachelor of Education, part time students. The two cohorts were chosen because they have been in campus long enough hence were assumed to have experience on information access compared to the 1<sup>st</sup> and 2<sup>nd</sup> years. This is because they have been in the University education long enough as compared the first and second years.

**Table 1**  
**Summary of Percentage of the Students in Each Respective University.**

University	Total 3 <sup>rd</sup> and 4 <sup>th</sup> year students	% of the accessible population (2716)	Sample Size
A	504	18.5	65
B	825	30.3	105
C	510	19	66
D	396	14.5	51
E	491	18	63
<b>Total</b>	<b>2716</b>	<b>100</b>	<b>349</b>

Table 1 shows the sample size that was selected from each respective university. A total of 65 (18.5%) were selected from university A, 105 (30.3%) from university B, 66 (19%) from University C, 51 (14.5%) from D and 63 (18 %) from E. That provided a total sample size of 349 par time students pursuing B. Ed programme.

### Data Collection Instruments

The data was collected using a Student Questionnaire of likert type. To check content, face and construct validity, the researcher first subjected the student questionnaire and focus group discussion guide for peer review with fellow students in the programme of curriculum studies. Then it was subjected to two School of Education faculty members from Maasai Mara and Egerton Universities for another review. According to Mutahi (2000) expert judgment is highly recommended in estimating content validity. The faculty being experts in the area under study studied the instruments and offered their suggestions on content. The researcher adjusted the tools according to the suggestions that were proposed towards improving them. Face validity was checked through the division of the questionnaire into different sections A, B, C and D which were according to the objectives under study. Additionally a review of literature gave guidance on the theoretical base for examining students' utilization of open educational resources for academic work.

The researcher estimated reliability using the Cronbach's alpha. Tavakol and Dennick (2011) assert that Cronbach alpha is the most commonly used estimate for internal consistency on items in a scale that measure the same construct and therefore the most relevant for this case. Items that have more than two scores or use likert scale for scoring are also best analysed using the Cronbach- Alpha (Menter, Elliot, Hulme, Lewin, & Lowden, 2011). Fraenkel and Wallen (2006) suggest that a reliability coefficient ranging of 0.7 and above is acceptable in an educational research. The student questionnaire yielded an overall reliability coefficient of 0.79 which was considered acceptable for this study since it was above the recommended threshold of 0.7

### Data Analysis

The data collected using the questionnaires were organized, coded and analysed. Quantitative data was summarized using frequencies and percentages. Quantitative data obtained from the closed ended items in the students' questionnaire were analysed with the aid of SPSS version 20 program. Regression analysis was used to test the hypothesis.

## Results and Discussions

### The Students' Perceptions on OERs and their Utilization

The researcher sought to establish students' perceptions on OERs and their utilization. They were asked to score a five point likert scale that ranged from strongly agree, agree, neutral, disagree or strongly disagree. The scale consisted of thirteen items. The findings are as summarised in Table 4.2.

**Table 4.2**

#### *Descriptive Statistic of Students Perceptions on Utilization of OERs*

	Item	n	SA %	A %	N %	D %	SD %	Mean	SD
i	I think i cannot utilize open educational resources from my smart phone.	321	29	23	6.9	21	20	2.80	1.54
ii	I think it is challenging to utilize open educational resources	321	9	14	5.9	44	27	3.65	1.26
iii	I find open Educational Resources useful in my program of study	321	2.2	1.2	3.7	42.7	50.2	4.37	0.82
iv	I am encouraged to use open Educational Resources in my program	321	49.8	16.2	3.7	12.5	17.8	2.32	1.59
v	I think open educational resources are more useful than books from the library	321	52	24	7.8	5	11.2	2	1.35
vi	OERs require a lot of time when utilizing them for studies	321	27	28	12	20	13	2.65	1.39
vii	I think OERs are not useful in doing my class assignments	321	1.6	2.2	5	22	69	4.55	0.82
viii	I think that OERs can only be accessed and utilized by licensed people.	321	17	51	7.2	9.7	15	2.54	1.29
ix	It is very difficult to find OER in Specific areas of study	321	24	28	14	21	13	2.72	1.38
x	OERs require lots of concentration when searching for a particular article.	321	27	43	11	14	5.3	2.28	1.16
xi	OERs are only available in soft form	321	35	44	17	2.5	1.2	1.92	0.86



xii	OERs are only available to registered users	321	26	22	16	20	17	2.81	1.44
xiii	OER are very difficult to access for utilization	321	23	22	9.3	25	20	2.98	1.49
<b>Average</b>								<b>2.89</b>	

The researcher asked respondents whether they thought they cannot access OERs from the smart phones. A majority 168 (52 %) agreed with the statement. A total of 131 respondents (40 %) disagreed with the statement. A total of 22 respondents 6.6 (%) respondents were neutral. This was an indication of not knowing exactly what OERs are. The respondents were asked whether they are encouraged to use open Educational resources in their programs. 97 (30.3 %) of the respondents agreed with the statement whereas 212 (66%) of the respondents disagreed with the statement meaning they are not encouraged to use OERs in their studies. A minority of 12 (3.7 %) indicated neutral.

The respondents were also asked whether they find OERs useful in their programs of study. A majority 298 (92.9 %) of the respondents agreed that OERs are very useful in their programs of study. While 12 (3.7%) indicated neutral. A minority of 11 respondents (3.4 %) disagrees with the statement that OERs are very useful in their programs of study. The respondents were to respond to a statement that said OERs are only available to registered users. A majority of 153 respondents (47.7 %) agreed that they have to be registered in order to access the OERs while a minority 118 (36.7 %) of respondents disagreed with the statement. This means that majority of the respondents think that for one to access OERs he/ she must be registered. The respondents were also asked to indicate whether OERs are very difficult to access. A total of 145 (45.2 %) agreed that it is difficult to access OER while a majority of 146 respondents (45.4 %) disagreed. A total of 30 respondents (9.3 %) indicated neutral on the statement. The respondents were asked whether they think OERs are very difficult to access for utilization. A Majority 145 (45.2 %) disagreed with the statement whereas 44.8 % agreed. This was a unique outcome which is almost 50 % half divided.

Table 4.2 also gives the general remark or inference regarding the respondent's perceptions. On item i the learners generally agreed that they think they are not able to utilize smart phones to access OERs ( $M=2.80$ ,  $SD=1.54$ ). The students also agreed that they find OERs useful in their programs of study. This is mostly because many of them are failing to know that as much as they are voluminous documents one can comfortably access and utilize them from the comfort of a sizeable smart phone as long as it allows for various search engines. The learners did not think it was challenging using OERs. This means that they either had some information on OERs or they were ready to use the resources. The respondents thought that OERs are equally important like the traditional or ordinary books. This finding corroborates with that of Bliss, Robinson, Hilton, and Wiley (2013) conducted in USA titled an OER coup among eight community colleges trying to get information on cost, uses, and perceptions of the quality of OERs. Most students and teachers perceived OERs to be at least equal in quality to traditional textbooks they had used in the past. This is basically because OERs undergo peer reviews before they are put up in platforms and websites for student's usage. The peer reviewers are people who are well versed and knowledgeable on areas of publication and thereby improving the quality. The other thing that learners brought out is that they thought that OERs are only available in soft form. Majority of them agreed with this

statement. That is partially true since there is the provision of printing them for use as long the creative common rights are adhered to accordingly.

Items xii and xiii were asking respondents whether they thought OERs were only accessed by registered users and whether they were very difficult to access. From Table 4.2 of the respondent it can be concluded that majority of the respondents indicated neutral. This can be a sign of either not knowing or not being very sure. This ultimately goes along away in determining whether they will utilize OERs or not for academic purposes.

The respondents were asked to indicate whether they thought they could not access OERs from their smartphones ( $M= 2.80$ ;  $S.D= 1.54$ ). This meant that they agreed with the statement. Therefore they needed to be sensitized on accessing OERs. They were also asked whether they thought it was challenging to utilize OERs. Generally the total of the mean on Table 4.2 is 37.58 which is an average of  $M= 2.89$ . From the scale under data analysis section, it can be concluded that the respondents had moderate perceptions on OERs.

The findings from item 8 on students' perceptions of OERs and their utilization seem to contradict those findings from Feldstein et al., (2012). Feldstein et al., (2012) surveyed a total of 1393 students who utilized OER. From the 315 students who responded 95 % strongly agreed or agreed that the OER were easy to use and 78 % of respondents felt that OER provided access to more up-to-date material than is available in textbooks. Approximately two-thirds of students strongly agreed or agreed that the digital OER were more useful than traditional textbooks and that they preferred the OER digital content to traditional textbooks. This might be the case since the research was purely an action research carried out in Virginia State, USA. The researchers did not create an experimental design or rigorously determine causality. Again for this study the students had no options but they were connected to the materials and given timelines after which the materials became inactive in the portals.

The findings of this study differ with those of Petterson and Jurado (2015) done Latin America (Cuba, Guatemala Peru, and Brazil). The researchers established that Lecturers from Brazil, Cuba were more positive on the utilization of OERs and willing to share their materials than the group from Peru and Guatemala. This is a contrast from the current study where the average total of the mean on Table 4.12 is 37.58 which is an average of 2.89 which can be inferred to mean the students had moderate perceptions on OERs. The difference in the results might be due to the methodology used and also the respondents. Petterson and Jurado used an experimental research design whereas the current study used correlational design. The researcher did not manipulate any of the variables for the current study.

To test  $H_0$ : There is no statistically significant relationship between students' perceptions on OERs and their utilization for academic work in Kenyan private universities. The relationship between students' perception on OERs and their utilization was established using simple regression. The index of perception was then regressed on that of utilization. The findings are presented in Table 4.3, 4.4 and 4.5.

**Table 4.3**  
**Model Summary of Perception Index**

<b>Model Summary</b>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.394 <sup>a</sup>	.155	.152	.33303

a. Predictors: (Constant), Perception Index

Table 4.3, R<sup>2</sup> (coefficient of determination) was used to establish the predictive power of the study model which was found to be 0.155 implying that 15.5% of OERs utilization was explained by students perceptions. The remaining 84.5% can be attributed to other factors not investigated in the study. In case another variable is introduced in the model the contribution would be 15.2 % as indicated by the adjusted R squared value. Generally ANOVA tells us that the model is a significant predictor.

The ratio in the ANOVA Table 4.3 indicates that the overall regression model is acceptable for the data. Table 4.3 shows that perceptions are statistically significantly related to the dependent variable (utilization). Therefore, there is a positive relationship between utilization and perceptions index and therefore the relationship is significant. This means that the more students have positive perceptions on the OERs the more they will be used ( $r(321) = 0.394$ ;  $p < 0.05$ ). Therefore the null hypothesis is rejected. Therefore, the model used in this study is suitable to make viable decisions. This study contradicts a study done by Kim, Lee, Lee and Shon (2015) conducted in Korea University titled Influencing factors in OER usage of adult learners. In that study it was established that attitude of the students does not have a significant influence on adult learners OERs usage. The adult learners in that study are just like the part time learners who join university after having completed other professional courses. This result might be due to the setting of the students' and orientations into their programs of study. This might be the case since other institutions of higher education in developed countries expose learners to these resources and even have campaigns for the use of the resources.

**Table 4.4**  
**ANOVA between Utilization and Perception Indices**

<b>ANOVA<sup>a</sup></b>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.494	1	6.494	58.554	.000 <sup>b</sup>
	Residual	35.381	319	.111		
	Total	41.875	320			

a. Dependent Variable: Utilization index

b. Predictors: (Constant), Perception Index

Generally ANOVA on Table 4.4 tells us that the model is a significant predictor. It further shows that awareness is statistically significantly related to the dependent variable (utilization). Finally it shows that the model is significant in predicting utilization ( $F(1,319) = 58.554$ ).

**Table 4.5*****Coefficients of Utilization and Perception Indices***

Model		Coefficients <sup>a</sup>			t	Sig.
		Unstandardized		Standardized		
		B	Std. Error	Beta		
1	(Constant)	.922	.078		11.828	.000
	Perception Index	.200	.026	.394	7.652	.000

a. Dependent Variable: Utilization index

$r(321) = 0.394$ ;  $p < 0.05 = R .155$  Adjusted  $R^2 .152$   $F(1, 319) = 58.554$   $p < 0.05$

Table 4.5 shows the unstandardized coefficient intercept (constant) is .922, while the partial regression coefficient for perceptions is .200 while the standardized Beta coefficient is .394. From the partial regression, it can be implied that perceptions significantly predicts utilization ( $\beta = .394$ ;  $t(321) = 6.494$ ;  $p < 0.05$ ). In other words it implies perceptions and utilization are dependent on each other. Consequently it can be concluded that perceptions index statistically and significantly predicts utilization. Therefore, the null hypothesis; There is no statistically significant relationship between students perceptions on OERs and their utilization for academic work in Kenyan private universities is rejected and conclusion is that there is a positive relationship between utilization of OERs and perceptions in the use of OERs.

The findings of this study corroborate with those of a study done amongst lecturers utilization of OERs in Latin America (Cuba, Guatemala Peru, and Brazil) by Petterson and Jurado (2015). The researchers found out that lecturer opinions about use of OERs and those of the students strongly correlated. It was concluded that attitude of the lecturers is of critical importance for the acceptance and utilization of OERs. This study used an experimental study design since the data was collected at the beginning of a programme and one after the respondents went about participating in a course that was given on learning management systems that made use of OERs.

**Summary**

The researcher established that there is a statistically significant relationship between the students perceptions on OERs and their utilization. Perceptions are statistically significant related to the dependent variable. Therefore there was a positive relationship between utilization and perception index and therefore the relationship is significant. The relationship is positive. This means that the more students have positive perceptions on the OERs the more they will be used ( $r(321) = 0.394$ ;  $p < 0.05$ ). Therefore, the null hypothesis was rejected or not accepted (See table 4.5).

**Conclusion and Recommendations**

The researcher concluded that lecturers and OER Africa should sensitize students on the use of OERs and encourage them to make use of them. Institutions of Higher learning should make it a rule that lecturers should incorporate OERs in the course outlines and specifically design class assignments that requires learners to refer or use OERs in report writing or doing assignments. This will go a long way in shaping students perceptions on the OERs especially on their significance in academic use.

The students should also seek information from the many links of OERs and they should be ready to seek assistance from lecturers and experts on how to access and use OERs. OERs are of many types and they have many repositories and sites. The students need to search for the numerous sites and try to make use of them for academic purpose.

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