Accessibility to Research Information Services and Resources on the Success of Doctoral Research Process

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Abstract

Libraries core business remains that of supporting teaching, learning, research activities and development of a culture of knowledge creation to fulfill the mission and objectives of their parent institution at all levels. On the other hand, doctoral research is a rigorous and very intensive process and requires the support of a vibrant librarian to meet information needs of the PhD candidates. This paper addresses the accessibility and the role of librarians in supporting the PhD research work. Accessing online resources. In Kenyan public universities, enrollment of students pursuing doctoral qualifications has been increasing over the last decade, yet successful completion of doctoral studies has been at an all-time low in Kenya compared to other universities in the world. The need to provide a framework to ensure a suitable access environment for doctoral students, within their own competing roles and individual characteristics. The role of the librarian in the doctoral process is the focus of the study. The study used a descriptive research design. Data was collected from three public universities offering doctoral studies for over five years. A population 384 doctoral students and 18 senior librarians were sampled using simple stratified technique. Primary data was collected using self-administered questionnaires the study established that the library collected and organized the resources, provided space, internet based resources and an off-campus access system. But the learners used the general search engines more than they did the library based resources. The study recommended that there is need for the librarian to become more accessible through purpose driven services targeting the doctoral student’s needs. This would impact on the successful and efficient completion rates of the research process.

Key words: Accessibility, Research Information, Library Support, Doctoral Research Process

1. Introduction

According to Nazim and Mukherjee (2013), Oakleaf (2010) and Gold (2013) academic libraries have long enjoyed their status as the heart of the university. Libraries core business remains that of supporting teaching, learning, research activities and development of a culture of knowledge creation to fulfill the mission and objectives of their parent institutions. The University of Illinois website (http://www.Library.Illinois.edu/ask-us/information-for-researchers/) has a disclaimer that librarians collaborate with researchers on the entirety of the research life cycle.

The doctor of philosophy level is a research intensive process that acquisition of research and information searching skills is paramount to the success of the process (Carpenter, 2012; Daland, 2013). As noted at Research Libraries in UK (Auckland, 2012) researchers are time-poor and are focused on the immediate demands of their research program. They often have a limited view of what librarians can offer them due to a perceived “persistent confidence” in their self-sufficiency as information users; that digital delivery of scholarly information in journals are free online. There seems to exist a limited sense of the significance and value of information management skills needed to improve on the research experience.

Hoffmann, Antwi-Nsiah, Feng, Meagan and Stanley (2008) observed that doctoral research is a rigorous and very intensive process and requires the support of a vibrant librarian to meet information needs of the PhD candidates. Limited studies (Auckland, 2012; Brown & Swan, 2007; Oakleaf, 2010) address the role of librarians in supporting the PhD research work. They focus on traditional functions of an academic library, such as resource and information management (Hart & Kleinveldt, 2011) and accessing online resources (Rasul & Singh, 2017).

Indeed none is expressive on the success of doctoral research process as a result of library support (Maccoll & Jubb, 2011). This creates an information gap which this study will endeavor to address. Notably there is a surge in PhD research programmers in Kenyan universities as it has become a requirement for teaching in the universities (Nyaingoti-Chacha, 2018; CUE, 2016).
The question within the context of developing countries as Kenya is whether librarians are adequately equipment to meet information needs and subsequent demands for PhD research in public universities.

2. Statement of the Problem

Enrollment of students pursuing doctoral qualifications has been increasing over the last decade, yet successful completion of doctoral studies has been at an all-time low in Kenya compared to other universities in the world. Some of the reasons advanced by contemporary writers is revolve around the supervisor-candidate relationships, personal characteristics of the persons involved, but little attention in literature is given to the relationship of the librarian and the candidate in as far as accessibility of useful literature and information services. This according to Amutabi, 2011 and Opata (2017) are factors that may impact on completion rates. It has been assumed that library support to learners improves success rate for doctoral research to evaluate accessibility to research information and services in order to respond to doctoral information needs with an aim of building in capacity for effective research process.

3. Objective of the Study

The objective of the study was evaluate of accessibility to research information services specific for the success of the doctoral research process in selected Kenyan public universities.

4. Theoretical Review

4.1 Information Theory

The founder of this theory is (Shannon, 1948). The theory bonders on communication mainly about the technological issues involved whenever data is transmitted, stored or retrieved. It motivates that, the harder it is to guess what is received, the more information one has got. Shannon believes the process of communication is more important than the communication itself; one can extrapolate his ideas to the fact that a communication system can shape the communication itself. This idea is picked up on but not stated explicitly in a follow up essay by Weaver 4 (Ruthven & Kelly, 2011).

The theory involves concepts such as communication channels, bandwidth, noise, data transfer rate, storage capacity, signal-to-noise ratio, error rate, feedback (Umeozor, 2020). They are applicable to the study as they set the framework for information services. Libraries are involved in collection, organization and dissemination of information. With the advancement of information communication technologies (ICTs), the need for relevant infrastructure to support the information storage, retrieval, transfer and sharing to ensure access and discoverability by the end users.

Communication channels: Allows seamless and constant information flow between the librarian and the research students. Brings information to the user at the right time in the right way. This would inform the study by looking at the models available to librarians and the library service and product delivery for doctoral students. Reap from this aspect by Bandwidth –the aspect of 24/7 connectivity and ability to access resources needed for research is critical (Tomaszewski, 2012). This supports access to research facilities in a multi-access approach in the right time and in the right way (Jaguszewski & Williams, 2013), for a special user group with time as a major factor and on time demand for information resources as well as bits of relevant data.

Data transfer rate in research is useful in ensuring knowledge creation and transfer in that the findings of previous research are available to inform decisions, contribute to existing knowledge base as well as the inform status of the researcher and the institution. To ensure accessibility it is necessary to consider the medium of content transfer. This serves to develop an understanding of information transfer within different groups of users and aids in the designing of the systems for information flow identify or diagnose sources of information flow failure. The librarian should be able to monitor and evaluate the process to ensure users have equitable and seamless access to research information in liaison with the academic departments (Jaguszewski, Williams, & Association of Research Libraries, 2013).

Reddy (2016) argued that beyond being an easy and accessible way to think about information, Shannon and Weaver’s work is limited. Some insist that in communication, the medium contains no information, and that meaning in communication comes from the constructionism of an active receiver. There are components of information that the theory does not address such as the relationship of technology and human aspects. In any communication string there must be an impact. Learning as an outcome is missing in the Shannon theory.

According to Businessstopia (2018) strength of Shannon and Weaver's Model of Communication is that it is successful in pointing out that clamor is the fundamental factor that causes less viable communication. The model additionally makes information access quantifiable. The quantifiability of the model has been useful for service delivery designs in the computation and calculation of capacity used in communication channels (Umeozor, 2020). Further, understanding noise would help us improve communication in information service delivery by developing clear communication patterns. The strength of the theories
in this study is reflected in the development of information infrastructure and information seeking behavior of doctoral students in searching for research information.

### 4.2 Empirical Review

Access and accessibility refers to the ways in which physical, psychological and social environments are designed to ensure that everyone can interact with others on an equal basis despite their Librarians ‘characteristics (Akussah, Asante, & Adu-Sarkodee, 2015). The concept of access is informed by the need to search and retrieve, making more accessible a rich store of knowledge with technological solutions for the problem of information explosion relevant to people in order to attain certain goals and increase performance.

Libraries in universities have been successful in seizing opportunities to participate in institution-wide initiatives such as access, and research information management systems, and efforts to improve training and support for researchers. In so doing they improve on access to available relevance, adequate, up to date or timeliness as well as discoverability of content (Kyavongo & Helm, 2009). Further, Otto (2010) commented that librarians are continually teaching students and faculty on how to identify and access learning resources. According to (Barry, 1997 as cited in Young, 2012) the faculty takes for granted that librarians are helping graduate students learn to use the library, whereas librarians often assume faculty are addressing this issue and this leaves the student exposed to frustration. To presuppose that graduate students are proficient library users, conscious of the full spectrum of library services, can be a mistake (Otto, 2014).

Majal (2016) regarding accessibility observed that the library as place spaces must attract users and must be easy to use. Shobha (2015) further argues that in an academic institution, the library is the key to learning, social interaction and research, hence, should be most accessible and encourage users to make full use of the services. The library should be centrally situated and easily accessible to ensure optimal usage. It must cater for all types of users whether they are technology savvy, researchers or physically challenged. Its diverse services should offer traditional and electronic modes of delivery. To meet varied levels of users’ needs it is imperative that the human resource be appropriate to address simple and complex user needs. Doctoral candidates require in-depth reference services and document delivery.

Spezi (2016) observed that the advent of the Internet and networked communications in the last 15 years has considerably changed the information seeking behaviors of doctoral students, including the information discovery and delivery process. Information seeking includes initiating a search, constructing search strategies, locating and evaluating the identified sources. The study on information-seeking behaviors, focused on understanding of how the Internet, social media, and other technological and communication-based, including mobile technologies, have changed the way students seek information.

A study by Vezzosi (2009) on ‘doctoral students’ information behavior’ found that doctoral students relied heavily on the internet for their research work. This called for simple and easy research tools such as document delivery and inter-library loans. The study noted that people play a crucial role in doctoral students’ information seeking behaviour in terms of suggesting relevant documents, tools and services that improve the research process. The library has an opportunity to create awareness and possess information competence needed by different type of information users and improve success rates.

Poor accessibility to useful research information contributes to low completion rates as a result of frustration and high rate of false drops while searching literature for one’s study (Amutabi, 2017). Singh (2017) argues that for researchers with limited access to library resources, literature searches can become a source of frustration with high hits or misses: sometimes, they find exactly what they need first time, only to find that the key reference or information is hidden behind a pay wall. Institutional subscription to databases offers a solution to an effective search process (Rowley, 2010). The solution is to develop a collection of web-browser plug-ins that makes the scholarly literature more discoverable. Use of Google-like search engines would improve search ability and discoverability of library resources (Wang, & Mi, 2012).

Bola and Oluwabiyi (2013) observed that the role of the library as a place of learning and of access to information is as valid today as ever. The study further emphasizes on the need for libraries to improve in the services rendered to the graduate students. The desired service expectations of graduates reflect that the users required access to relevance and accurate information that matches their research needs. This would reduce or help to avoid frustrations and difficulties faced from access to research information activities. As the learning environment becomes unpredictable coupled with interruption of other roles played in the life of researchers; academic libraries need to maintain their position as key partners in research by anticipating, understanding, and stressing the challenges in new research activities.

Bola and Oluwabiyi (2013) also recommended that in order to support research activities of postgraduate students, libraries needed to create awareness among graduate students about the services and resources that are available and how to use them; manage and maintain. Institutional repository of indigenous information sources (theses, projects, technical reports etc.) provide a list of credible journal publishers in order to reduce the time and the cost of scholarly publishing to graduate and increase visibility and access of scholarly research from faculty and students of academic institutions. As for collection development the
study recommended that academic libraries stocks should be up-to-date in order to encourage researchers to use their facilities and provide more electronic resources that are easily accessed within a user-friendly environment (Armstrong, 2014).

Notably, accessibility of resources and services is an important factor that determines graduate students’ satisfactions. Library staff should be qualified enough to identify content that is useful for graduate level. Snyder (2013) discussed the value of Wikipedia and its use as a reference source in research activities, while Orlovitz and Brandt (2019). Motivated peer sharing among scholars, you may just who do have access and they can share pdf. Also, noted that many professors and researchers will have private libraries or collections of materials for their field: making good friends with others working in your field, might make it possible to distribute the cost of accessing these materials.

Finally, there was need for librarians to design appropriate information literacy and bibliographic instruction programmes which may aid research capacity development of postgraduate students and particularly those writing dissertations and/or theses (Oakleaf, 2010).

As regards the library consortia which negotiated big deals Libraries have better purchasing power and have developed a better understanding of their users’ needs as a result of working collaboratively and rigorously in a quest to improve collections development.

5. Materials and Method

5.1 Research Design

The study adopted descriptive survey research design. Descriptive studies describe phenomena associated with a subject population. The population of the study constituted of all the Kenyan chartered public universities. Based on this, the population of the study targeted all the doctoral students registered with the board of postgraduate in the Kenyan public universities between 2016 and 2017, documents relating to doctoral research process.

The study targeted three public universities in Nairobi metropolitan Region [NMR], offering doctoral programmes for more than five years since 2007(CUE, 2014). Based on the huge enrolment of doctoral students, the selected public universities were deemed to have full representation of all the Kenyan public universities (CUE, 2014) (appendix III). Therefore the target population of the study was 3620 comprising 3602 doctorate student and 18 librarians drawn from three selected universities in NMR offering doctoral program for over five years since.

The target population was 3620 was categorized into three universities using stratified random sampling. Out of the target population, the researcher sampled 384 (11%) respondents using proportionate simple random sampling to be a representative sample size of the study (Morris, 2014; Mugenda, 2011).

5.2 Data Instruments, Analysis and Presentation

A self-administered questionnaire and an interview schedule were used to collect both quantitative and qualitative primary data. A self-administered questionnaire when hand delivered received the advantage of enabling quick collection or responses and allowed clarification of any doubt on the spot. The Questionnaire was used to collect data from the doctoral students and the Librarians. The study used descriptive statistics methods to analyze the data. Both quantitative and qualitative data analysis was done using SPSS. Data obtained was analyzed using descriptive and inferential statistics using SPSS. After collecting data, the researcher ensured that it was processed before carrying out the analysis to correct problems that were identified in the raw data.

6. Data analysis and Discussion

6.1 Response Rate

Out of 384 questionnaires that were administered, 311 questionnaires were properly filled and returned. This represented a response rate of 81.0 % as shown in Table 1.

<table>
<thead>
<tr>
<th>Table 1 Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctoral students</td>
</tr>
<tr>
<td>Returned</td>
</tr>
<tr>
<td>Not returned</td>
</tr>
<tr>
<td>TOTAL</td>
</tr>
<tr>
<td>Librarians</td>
</tr>
<tr>
<td>Returned</td>
</tr>
</tbody>
</table>

Table 1 Response Rate
The results are in agreement with Babbie (2013) that a return rate of above 80% is excellent. The study results indicate a response rate of 81% and therefore, considered adequate for further analysis.

6.2 Evaluating Accessibility to Research Information Services and Resources

The purpose of the second objective was to evaluate how accessibility to research information sources and services influenced success of doctoral research process. This was evaluated at two levels notably information services and information resources.

6.2.1 Information Services

The researcher sought to find out the accessibility of research information services availed by the library respondents were helpful during their visit to the university library. Results are presented in table 2 below.

<table>
<thead>
<tr>
<th>Information Services</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>To search for electronic journal articles</td>
<td>311</td>
<td>4.39</td>
<td>.710</td>
</tr>
<tr>
<td>To look for Library materials on the shelves</td>
<td>311</td>
<td>4.32</td>
<td>.545</td>
</tr>
<tr>
<td>Electronic information service</td>
<td>311</td>
<td>3.12</td>
<td>1.394</td>
</tr>
<tr>
<td>The library online catalogue</td>
<td>311</td>
<td>2.97</td>
<td>945</td>
</tr>
<tr>
<td>The library space</td>
<td>311</td>
<td>2.83</td>
<td>910</td>
</tr>
<tr>
<td>The library staff</td>
<td>311</td>
<td>2.82</td>
<td>916</td>
</tr>
<tr>
<td>The computer laboratory</td>
<td>311</td>
<td>2.58</td>
<td>.595</td>
</tr>
</tbody>
</table>

Majority of the respondents agreed that said they visited library to search for electronic journal article with a mean of 4.39; and to look for Library materials on the shelves with a mean of 4.32 .this implies that respondents were satisfied with the level of accessibility of useful research information both online and on the physical collection. Respondents with a mean of 3.12 did not agree or disagree that electronic information service were useful to assist then in research This middle position may be a result of lack of awareness that the library makes this services available to doctoral students (Delaney & Bates, 2018).

On the other hand respondents were more towards neither agreed or disagree that they found the library online catalogue useful with a mean of 2.97, the library space with a mean of 2.83; the library staff with a mean of 2.82 and however, respondents disagreed that they visited the library to use of the computer laboratory with a mean score of 2.58. The use of computers results is as a result ownership of personal laptops since the concept developed by the government of Kenya (The Kenya ICT Board and Kenya’s Ministry of Information and Communications, 2011).

The current study findings are consisted with those of Spezi (2016) and Covert-Vail and Collard (2012). The two studies concur that internet and networked communications are key to information research information discovery and delivery process in the 21st Century. However, the findings are in contradiction with Majal (2016) and Shobba (2015) arguments that encourage use of the physical resource for access to research information.

6.2.2 Information Resources

Respondents were further asked to indicate the type of information resources they were aware of. Research is resource intensive and different types of information would provide different approach. The results are shown in table 3
The foregoing scholars concur that literature review includes peer reviewed articles, books, thesis and dissertations, conference proceedings were aware of abstracts (94.5%), webpages (89.7%), thesis and dissertations (85.9%), electronic journals (84%) and video/DVD, books (83%), reports (82%) and online discussions and reports (81%) as the key useful research information resources.

The current findings are in agreement with the study by Galvan-Lopez, Cody-Kenny, Trujillo and Kattan (2013). The foregoing scholars concur that literature review includes peer reviewed articles, books, thesis and dissertations, conference papers as sources of empirical research information. The finding affirm Walshaw (2013) contribution that library should provide research student with access to recent literature in their chosen study, a range of databases, guide to selected information resources and website, access to electronic or paper copies, books, report relevant towards work. The library will also organize for interlibrary loan for books and journal articles, mechanism for journal alert for latest issues on the chose. Most studies reveal that researcher prioritize journals as the key research information resource, however the following scored court decisions, 53% generic, 51% grant and computer program 48% the least in awareness. Most studies of researcher priorities confirm that journals are the key information resource; while resources may be acquired they may not be put to use and therefore need to be marketed to the potential users a case of the results.

The current findings are in agreement with the study by Galvan-Lopez, Cody-Kenny, Trujillo and Kattan (2013), Parsand (2010) and Onweuejihwe et.al, (2012). The foregoing scholars concur that literature review includes peer reviewed articles, books, thesis and dissertations, conference papers as sources of empirical research information. This confirms Eddy and Solomon (2017) who proposed that liaison librarians use their knowledge of scholarly communications, innovative bibliometric analysis to help enhance the discoverability and user experience of an online journal publication. The finding affirm Walshaw (2013) contribution that library should provide research student with access to recent literature in their chosen study, a range of databases, guide to selected information resources and website, access to electronic or paper copies, books, report relevant towards work. The library will also organize for interlibrary loan for books and journal articles, mechanism for journal alert for latest issues on the chose. The results conform to contributions by Amutabi (2011); Glazer (2010); Omanga (2017) and Opata (2017) who suggested that accessibility to useful research information us critical for one to be able to search background information and develop a research gap form literature especially in humanities.

### 6.2.3 Library Support in the Access to Research Information Resources
Access to research data is critical for a doctoral studies. To confirm the researcher sought more information on the librarian’s role. Inability to access previous works may hinder successful progress. Librarians were asked to indicate the platforms the library utilized to increase access to research information. Researcher posed this question to the section heads in the selected university libraries solicit information regarding information relevance and discoverability through research data management form collection to archiving. Results are shown in figure 1.

Figure 1: Library Support Research Data Management

Results in figure 1 shows that the online catalogue 9 (50%) rated high., this is as a result of librarians upgrading the public catalogue to a web based infrastructure accessible to all users using the general search engines. This confirms the findings from students that they used the online catalogue. All respondents agreed that their online catalogue was a success for service delivery making it easy for clients to identify what is available in the library from remote places. Respondents also used Institutional repository (IR) 7 (39%). The respondents indicated that, the repository was adopted to enable collection in a single place all the research output of an institution and make accessible to all on the web through the institutional connectivity. This may be informed by the fact that most of the libraries had just implemented the IR policy (JKUAT) while others were in the process of digitization and populating them (UoN and KU). Further from the directorate of graduate school (UON) it was revealed that there were no formal library orientation or information literacy programs for student enrolled in doctoral programmes. It was assumed they bring along experience ‘prior knowledge from their previous qualifications’ and therefore should be able to find information. The results confirm a report by RIN (2007) on the value librarians give to online library catalogue and other databases to ensure they reach the researchers through the web based platforms. The researcher having established that libraries had services and resources, proceeded to assess the level of discoverability and usability of the same by the doctoral students for the research process. It is one thing to have a facility but a difference is in how that facility impacts on the target community.

6.2.4 Success of Doctoral Research

The researcher sought to measure to the extent to which the respondents agreed on the influence of the librarian their research process. This ranges from database awareness, library workshops, ability to approach the librarian for help, the kind of services sought and the point of interaction. The find evaluate the relationship between the librarian and the doctoral candidates. The results are presented in Table 4.
The results in table 4 above shows the level of awareness with mean score of 4.25 agreed to awareness of the publishing cycle had an influence in their study discipline while a mean of 3.88 agreed to the librarians’ ability to determine what information was needed to answer question(s) in their research area. Also with a mean score of 3.57 agreed with the statement the ability to evaluate information for quality, relevance, fitness for purpose of my study area. Moderately agreed with a mean score of 3.38 for ability to evaluate relevant data e.g. statistics; while ability to read scholarly articles, to inform my study area; understanding of biases in information in my discipline; understanding of the economic/political/social aspects of information production and dissemination; ability to use citations from one source to track other sources with a mean score of 3.12 respectfully; this shows that learners were not quite sure what influence of the librarian impacted on their research process. However, a minority of respondents with means core of 2.86 who did not agree that they gained from the ability to locate relevant data e.g. statistics, resources form a variety of sources. The results imply that there are areas for consideration for librarians to make themselves visible to research students and support their information needs.

The findings of the study confirm the observations of Walshaw (2013) on ‘getting grip of doctoral research’ that doctoral students require certain skills which will be useful for their studies. Further that information retrieval skills and familiarity with online databases top of the requirements, efficient use of their time and ability to get up-to-date, precise and accurate information resources. On the other hand Delaney and Bates (2018) observed the misconceived graduate perceptions that everything was available for the researcher on the internet, and therefore there was no need of physical library services and interventions.

### 6.3 Regression analysis of Accessibility to Research Information Services and Resources and Doctoral Research Success

Ordinary least squares regression was conducted to evaluate the accessibility to research information services and resources and the success of doctoral research process in selected Kenyan public universities. The regression model \(Y = \beta_0 + \beta_1X_1 + \beta_2X_2\) was thus fitted from the data where \(X_1\) represented access to information and \(Y\) denoted success of doctoral research process. The model summary results, ANOVA results and regression coefficients are presented in Table 5.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.650*</td>
<td>.423</td>
<td>.421</td>
<td>.298</td>
</tr>
</tbody>
</table>

Dependent Variable : success of doctoral research process)
Independent Variable : Accessibility to Research Information services and Resources

As shown in table 5, the multiple correlation coefficient (R) of 65.0 per cent means that there is a moderately strong linear relationship between the independent variable (accessibility to research information services and resources) and the dependent variable (success of doctoral research process).

The coefficient of determination \(R^2\) of 0.423 means that a unit increase in accessibility to research information services and resources caused the variation of 42.3 per cent in the success of doctoral research process. Further, an analysis of variance for the independent variable to tests for the variance of the means as shown in table 6.
Table 6: ANOVA for Accessibility to Research Information services and Resources

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>20.089</td>
<td>1</td>
<td>20.089</td>
<td>226.589</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>27.395</td>
<td>309</td>
<td>.089</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>47.483</td>
<td>310</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dependent Variable: The Success of Doctoral Research Process

Table 6 showed that F statistic of 22.589 was significant at 0.000 (p≤0.05) which indicates that the model used in the study was significant and that the independent variable (accessibility to research information resources) fitted well in the model. Therefore, accessibility to Research Information Resources was significant in explaining the success of doctoral research process. The results were presented in table 7.

Table 7 Regression Coefficients for Accessibility to Research Information Resources

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>1.641</td>
<td>.137</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accessibility to Research Information services and Resources</td>
<td>.532</td>
<td>.035</td>
<td>.650</td>
<td>15.053</td>
</tr>
</tbody>
</table>

a. Dependent Variable: The Success of Doctoral Research Process
b. Independent Variable: Accessibility to Research Information services and Resources

The results of coefficients to the model Y= 1.641+.532X1 estimates were both significant at the 0.05 level of significance as shown on Table 4.23 where y represents the success of doctoral research process and X1 represent the accessibility to research information services and resources.

The t and p-values of 15.053 and 0.000 indicated that the independent variable (accessibility to research information services and resources) was statistically significant in explaining the variation in the dependent variable (the success of doctoral research process).

The results conform to contributions by Amutabi (2011); Glazer (2010); Omanga (2012) and Opata (2017) who suggested that accessibility to useful research information is critical for one to be able to search background information and develop a research gap form literature especially in humanities.

7. Contribution to Knowledge

This study contributes to understanding of the important role of librarians’ support to learners and the success of doctoral research process. All other factors held constant the study explains 55 percent of the librarians’ support to learners in the success of doctoral research process. The role of academic libraries in facilitating research is highly acknowledged ad that academic libraries play a pivotal role in ensuring the success of research. With greater attention on research given by universities, the considerable amount of literatures has showed that libraries have put more emphasis on their services as compare to research facilities.

8. Implications of the Findings and Recommendations

The results of the study provide and an empirical research on the relationship between the librarians’ support to learners and the success of doctoral research process in selected Kenyan public universities. Current study suggests a strong relationships between these variables that curve a niche for librarian to design dedicated services and strategies in collaboration with the faculty to reduce frustration in accessing, retrieval and data management structures aimed at enhancing the doctoral research process and improve completion rates. And finally contribute to a knowledge based workforce in the country. The findings of this study have a number of implications for theory, practice and policy.
8.1 Theoretical Implications

Accessibility to information is imperative to successful conduct of research in among doctoral students. In addition, information accessibility is critical in predicting users’ information use, information accessibility also aids the propensity to use such information made available. The results make a contribution to Information theory by Shannon (1948) on technological issues involved whenever data is transmitted, stored or retrieved. Data transfer rate in research is useful in ensuring knowledge creation and transfer in that the findings of previous research are available to inform decisions, contribute to existing knowledge base as well as the inform status of the researcher and the institution. Scholarly Data available should have a way of reaching others locally and globally though scholarly communication (Chiware & Mathe, 2016; Stemmer & Mahan, 2016). Librarians need to help faculty discover and utilize the resources and tools that improve scalability, close knowledge gaps, improve confidence as well as enhance the process in research (Walters, 2016; Asundi, 2012). The theory becomes practical in the information communication process and changing how librarians provide support to learners pursuing PhD research and help them achieve their individual aspirations and expectations.

8.2 Policy Implications

It was noted that accessibility to research information resources influences the success of doctoral research process in selected Kenyan public universities. The study recommends for the expansion of university libraries by equipping them with necessary resources that include updated books, access to journals, periodicals and other sources of information. Further, the university management upscale and ensure seamless availability to distinguished journal websites in an attempt to ensure that doctoral students access latest research materials across the globe. Access to information is imperative to successful conduct of research in among doctoral students. Information accessibility is a critical necessity which in this study connects the availability of information resources in the library with use. In addition that information accessibility is critical in predicting users’ information use, information accessibility also aids the propensity to use such information made available. In conclusion, the results imply that there are areas for consideration for librarians to make themselves more visible to research students and support their information needs.

8.3 Recommendations and Suggestion Future Research

In this section, suggestions for further research in areas related to this study are given. In future, it is recommended that research be done to address the limitations of this study. The study only focused on three public universities offering doctoral programs within the Nairobi metropolitan region. The study did not include all the other postgraduates as this would entail studying a big population, resulting in information overload. Future research should include other universities and programs excluded in the study. The paper was limited to the effect of accessibility to research information in the research process as service providers. Future study could include the information professionals and trainers and their changing role as research partners in research supervision process.

References

5. Armstrong, M. (2014). Institutional repository management models that support faculty research