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CITATION ANALYSIS OF SOCIAL SCIENCE RESEARCH: A CASE STUDY OF BACHELOR DEGREE RESEARCH PROJECT REPORTS OF A NIGERIAN UNIVERSITY 2009-2013

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ABSTRACT

The study is an analysis of the citations in the research project reports of Social Science Bachelor degree graduates between 2009 and 2013 submitted to the Covenant University Library. This was with a view to determine the type of information resources that were cited more by the researchers, find the average citations made per project report, determine the amount of internet or e-resources cited as against print resources and ascertain the recency of citations and author preference in the ICT age. It was revealed that the authors cited more from textbooks than journal and internet / electronic resources. Citation from books was 69.4% followed by journals 16% and Internet/ E-Resources 8% among others. The average of 39 citations per report generally was discovered. 34.6% of the total citations were *Very Recent*, 21% citations were *Recent*, while 13.4% citations were *Not Very Recent* and 31% of the total citations were *Not Recent*. The researcher's author preference is foreign authors as against African authors.

It is recommended that the Library must engage more in a variety of education and information literacy skill programmes. Project supervisors should randomly check citations to deter students from using spurious authors. Students should seek for more recent materials and there should be lectures on citation/reference of consulted materials especially internet/e-resources. African authors should intensify writing and publishing among others.

KEYWORDS: Bibiometrics; Citation Analysis; Quantitative Appraisal; Bibliographic Study.

Introduction and Background

Citation analysis is an aspect of bibliometrics which deals with evaluation of cited resources in a particular work or group of works. According to Hussain (2011) bibliometric studies have been applied mainly to scientific fields and are based principally on various metadata elements like author, title, subject, citations, etc. related to scholarly publication within a discipline. This type of analysis provides useful indicators of scientific productivity, trends, the emphasis of research in various facets and researchers' preferences for publication (Jacobs, 2001).

Bibliometrics is a quantitative appraisal of publication formats of both macro and micro communication along with their authorship by mathematical and statistical computation (Nkiko and Adetoro 2007). In essence bibliometrics can be used in any subject area, especially problems concerned with written communication. In fact bibliometrics must have emerged out of the awareness that literature is increasing and evolving at a rate that only librarian or information worker who has acquired modern bibliographic skills and methods can keep up with the pace. Librarians and information professionals are the highest beneficiaries of practical application of bibliometric data, especially because such information is most useful in bibliographic control, database evaluation, and collection development (Marisa, 2005).

Bibliometric methods are useful for evaluation and to determine the influence of a single author or to describe the relationship between two or more authors or works. Isiakpona (2012) opined that it is a study that gives a detailed statistical analysis of texts, especially of published literature in different fields of learning.

Bibliometric studies can also be used to study regional patterns of research, the extent of cooperation between research groups and national research profiles. The main derivatives of bibliometrics are: publication counts, citation counts, co-citation analysis, co-word analysis, scientific 'mapping' and citations in patents. The word 'bibliometric' has been derived from the Latin and Greek words 'biblio' and 'metrics' which refer to the application of mathematics to the study of bibliography (Thanuskodi, 2010). According to Nkiko and Adetoro (2007), the benefit of bibliometrics and citation analysis are numerous and studies in these areas have provided insight into emerging and obsolescent areas of research by investigating those resources or materials that are used regularly. According to Kostoff (1998), the usefulness of citation analysis is in measuring research impact or quality. This technique has also been employed to unobtrusively determine which resources students at any level are using to conduct research for their projects and dissertations (Gooden, 2001 and Megnigbeto 2006).

This study is an analysis of the citations in the research project reports of social science bachelor degree graduands between 2009 and 2013 that were submitted to the Covenant University Library. Covenant University is the foremost private University in Nigeria according to the National University Commission's (NUC) ratings of 2005. Its 36 academic programmes are all fully accredited by NUC and the university has a mission of raising a new generation of leaders for Africa. The University Library, also called Centre for Learning Resources, is one of the best university libraries in Africa, judging by its collections and its deployment of information technology for all services. The library serves the staff and students of the University's two colleges: Development Studies and Science and Technology not precluding members of its immediate and remote community.

The Centre for Learning Resources provides access to numerous online databases and catalogues. At the end of each academic session, the graduating class submits research project report to the departments, with a copy each deposited with the university library. This study analyses the citations in these research reports, thereby helping the library determine which materials and resources are heavily used and which materials are needed to improve the collection. This is in comparison with a similar study of the pioneer bachelors' degree graduands by Nkiko and Adetoro in 2007.

RATIONALE FOR THE STUDY

In the recent years, there has been an explosive growth in human knowledge. Thus, the nature and degree of growth has fast outweighed the achievements of the past years. As the field of social science grows in leaps and bounds and the number of social scientists increases, so also is the volume of literature generated by the social science community. The growth of literature itself has caused what is described and known as information explosion. The internet is one major platform for easy and timely publication of knowledge in this age thus an indicator of literature growth in any field of knowledge. It has become one of the main channels for transmitting knowledge and a significant portion of social science literature appears on the internet. Apart from the aforementioned, Iroaganachi and Ilogho (2011) affirmed that the internet sources are preferred by many researchers due to its ease of access and availability of varied materials and the Covenant University has invested so much in this area. This study therefore, investigated most used resources by social science student of Covenant University for their degree research projects.

Objectives of the Study

The specific objectives of this study are to:

- analyze the type of cited materials

- find the average citations made per project report

- determine the amount of internet or e-resources cited as against print resources

- ascertain the recency of citations

- ascertain more frequently cited authors

Literature Review

Information Literacy

Information literacy skills are necessary requirements for maximizing the use of information resources in their varied formats and enhanced research output. Mitchell et al (2013) defines Information literacy (IL) as a set of competencies that enables individuals to recognize when information is needed and provides them with the ability to locate, evaluate, and use effectively the needed while Boekhorst (2003) supports this view by saying, the concept of information literacy was initially associated with traditional education with the development of individual competencies for learning and social responsibility. Consequently, Information Literacy is vital to producing a total man rather than just important to learning thus ALA (1989) in Mitchell et al (2013) considers persons who are information literate to be prepared for lifelong learning, because they can always find the information needed for any task or decision at hand.

According to Gathoni (2013) Librarians have over the years contributed towards development and improvement of these skills which are also research capacity skills. Indeed librarians have the remit to do this due to their skills and knowledge in the organization and retrieval of information and knowledge. Gathoni (2013) further reiterated the fact that the ability to locate and use information in an ethical manner is essential for quality research. Furthermore, and more crucially, research skills require the researcher to interpret the data and information into knowledge as well as develop new insight. Access to, and use of, information is therefore a prerequisite to the development of research skills which are part of things to be evaluated in any bibliometric analysis.

Nkiko and Adetoro (2007) in their analysis of "Pioneer Bachelor Degree: Citation of Covenant University Students' Research Projects", discovered that the authors of these research reports cited heavily from textbook holdings of the university library which could be due to a lack of information literacy skills.

(Gathoni et al. 2011), in their survey found that usage of e-resources is very low across different institutions of higher learning and this was attributed to various factors such as users' lack of information retrieval skills among others.

Gathoni (2013) clearly opined that there is a challenge of information literacy training, either around capacity, skills to develop critical thinking/lifelong learning, or information training uptake, or perhaps a combination of all these factors. A possible solution to this would perhaps be for librarians to ensure that they adopt the Information Literacy Standards for Higher Education developed by

Association of College and Research Libraries (ACRL 2000).

Research Qualities and Citation/References

The quality of a research work can largely be determined by the level of citation in it. In academia new knowledge is a vital proof of advancement and this can only exist when there has been a synthesis of a new idea with existing established knowledge. Hunter (2006) opined that A citation is both a signpost and an acknowledgement. As a signpost, it signals the location of your source. As an acknowledgement, it reveals that you are indebted to that source. Apart from these, it shows the credibility of a work especially if the cited author is vastly knowledgeable in the field. Hunter went on to demonstrate that citations function as a way for a writer to communicate with the readers. According to him by using citations, you keep the reader always apprised of whose idea or words you are using at any given time in each sentence and in each paragraph.

In the same vein, Nkiko & Adetoro, 2007; Rehn & Kronman, 2008 opined that citaion is a vital tool for assessing research quality and performance. Hunter (2006) further postulated that citing sources is important because the currency of academia is ideas. As a result, academics want to accumulate that currency; they want to get credit for their contributions. When a writer cites ideas, that writer honors those who initiated the ideas. Also keeping track of sources is important because, if you use someone else's idea without giving credit, you violate that person's ownership of the idea including the fact that academics value being able to trace the way ideas develop. When citation is properly done

the quality of research is enhanced and new knowledge that can be generally accepted is created

Bibliometric/ Citation Analysis

Donald (1991) stated that researchers and educators interested in bibliometric analysis increasingly are discovering the advantages of on-line bibliographic data bases, which are easy and inexpensive to analyze.

According to Donovan and Butler (2007) Non-standard research measures are attracting interest from disciplines where local publications and citations are difficult to analyze. Research has for some time recognized the limitations of conventional publication and citation indicators when applied to the social sciences and humanities (Glänzel and Shoepflin, 1999: 31; Hicks, 2004: 473; Luwel *et al*, 1999: 13; Moed, 2005; Nederhof *et al*, 1989: 427; Nederhof, 2006; Van Leeuwen, 2006).

However, Baker (1991) stated that literature on the use of bibliometric and scientometric methods in social work is rapidly developing and majority of the studies are within the area of evaluative bibliometrics. He further noted that Educators should not ignore the potential of on-line bibliometric analysis as a method to both train students and obtain information for program decision making. Bibliographic data bases provide objective, nonreactive sources of research data that do not involve the use of human subjects. He added that as a task or project in a social work research course, on-line bibliometric analysis can

be used to teach students concepts related to measurement, sampling, data analysis, data presentation, and computer technology.

Baker (1991) further stipulated that coupled with the low cost of searching many on-line data bases, a growth in the quantitative analysis of the history and sociology of social work may ensue. It is however not known whether there will be better citations with the explosion of information due to publishing of materials electronically between e-resource and hard copies.

REVIEW OF RELATED STUDIES

Nkiko and Adetoro (2007) analyzed "Pioneer Bachelor Degree: Citation of Covenant University Students' Research Projects", and discovered that the authors of these research reports cited heavily from textbook holdings of the university library (53.3%), journal 25%, even though one would expect more journal citations. Internet and electronic resources (7.7%) were less frequently cited, which could be due to a lack of information literacy skills and an average of 26.3% citations per report was recorded.

Also in Kenya, as much as librarians purport to deliver Information Literacy, the effectiveness and impact of the trainings are yet to be fully accomplished. A survey carried out in Kenya to evaluate the use of e-resources illustrates this. (Gathoni et al. 2011), in their survey found that usage of e-resources is very low across different institutions of higher learning and this was attributed to various factors such as users' lack of information retrieval skills among others.

A related study by (Kraus, 2006) was reported by (Nkiko and Adetoro 2007) to have examined 33 undergraduate student papers, presented at a symposium and revealed

that there were a total of 770 citations, out of which 76.2% were journal citations, 16.4% from books or book chapters, and only 1% was from electronic resources.

Megnigbeto (2006) studied the citations of dissertations of library and information science undergraduate students and found that the number of citations to Internet resources was very low, while A study by Tunon and Brydges (2005) used citation analysis to harvest the reference list of doctoral dissertations as an assessment of the Nova Southeastern University's doctoral students' research skills. This research was built on earlier studies, by Beile, Biote, and Killingsworth (2003) and Haycock (2004), (Nkiko and Adetoro 2007) .

Also a citation analysis of doctoral dissertations accepted at the chemistry department of Ohio State University by Gooden (2001) revealed that journal articles were cited more frequently than monographs and other sources. Kushkowski (2003) did a longitudinal study of over 9,100 citations from 629 masters and doctoral theses and found that authors preferred current researches regardless of discipline.

In investigating the effect of electronic journals on scholarly communication, Harter (1998) used citation analysis and discovered that the impact at Indiana University was minimal (Nkiko and Adetoro (2007). This study was a follow up on an earlier work (Harter and Joon Kim, 1996).

 It is therefore, not astonishing, that many researchers employ this method for evaluation intents.

Methodology

The study adopted a Bibliometric method and specifically a citation analysis of degree research projects submitted by social science students of Covenant University from 2009-2013. The references of projects submitted to each of the ten departments that

make up the social science programs in the university were assessed one after the other and the different type of cited materials were recorded according to department. The average citations made per project report in each department was calculated from the total. The number of internet or e-resources cited as against print resources was determined by counting them while the recency of citations was ascertained from the dates cited and more cited authors were determined by names and place of publication.

PRESENTATION OF DATA AND DISCUSSION OF FINDINGS

Table 1: Submission of Project Report per Year by the Graduating Class

Department	Project Report for 2009	Project Report for 2010	Project Report for 2011	Project Report for 2012	Project Report for 2013	Total	Rank order
Accounting	100	136	96	58	104	494	1
Banking and Finance	34	52	48	45	63	242	3
Business Administration	50	35	35	46	75	241	4
Economics	73	52	84	47	93	349	2
Demography and Social Statistics	9	14	11	23	18	75	9
Industrial Relations	5	13	12	21	43	94	8

International Relations	39	41	35	43	51	209	5
Marketing	33	19	20	18	43	133	7
Political Science	15	16	42	46	29	148	6
Policy and Strategic Studies	8	7	9	11	24	59	10
Total	**366**	**385**	**392**	**358**	**543**	**2,044**	

Table 1 above showed the number of project reports submitted by each graduating class. In 2009 it was 366, 2010 385, 2011 392 and 2012 358 and 2013 543. Also Accounting had the highest number of submission with a total of 494 from 2009-2013 while topping the count each year. This is followed by Economics then, Banking and Finance, Business Administration and International Relations. The implication of the figures in this table is that Accounting is the most preferred course in the social sciences. The chart below shows the average submission of each department.

Figure 1:

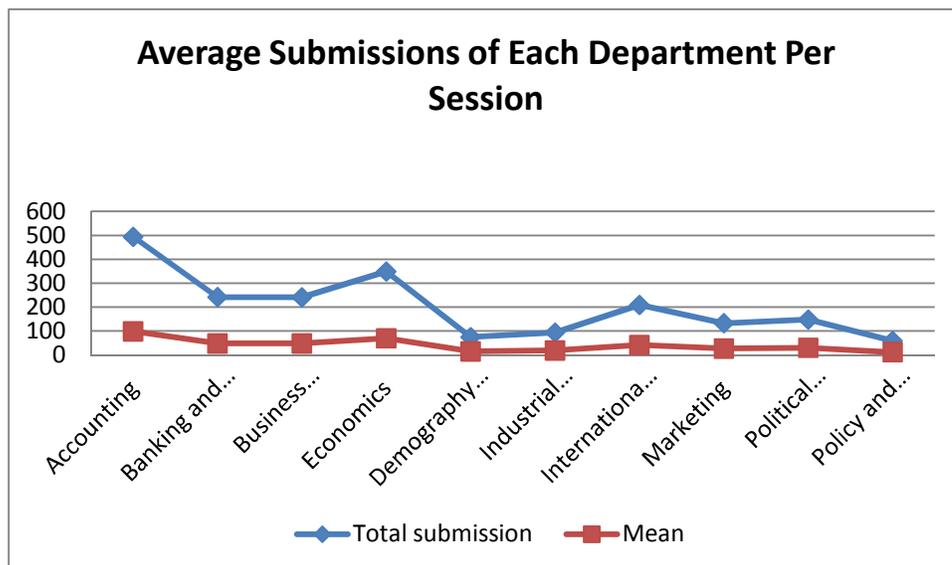Average Submissions of Each Department Per Session

Figure 1 above showed the mean of report submission by department per year and Accounting had higher submission 99, followed by Economics with 70, Banking and Finance 48.4, Business Administration 48.2, International Relations 42, Political Science 30, Marketing 27, Demography and Social Statistics 15, Industrial Relations 19 while the last and the least is Policy and Strategic Studies with a mean of 12 report submission per session.

Table 2: Citation Counts by Department

Department	Citation Count	Percentage	Rank Order
Accounting	23,683	29.5%	1
Banking and Finance	6,007	7.4%	6
Business Administration	11,074	13.8%	2
Economics	9,852	12.3 %	3
Demography and Social Statistics	3,081	4 %	9
Industrial Relations	3,964	5%	8
International Relations	9,583	12 %	4
Marketing	6,653	8.3%	5
Political Science	4,357	5.4 %	7
Policy and Strategic Studies	1,843	2.3 %	10
Total	**80,097**	**100** %	

The table revealed that the department of Accounting had more citations (23,683) than any other department. This was obviously due to the number of project report submitted to the department. The departments of International Relations, Business Administration and Economics are next in the preceding order, while Banking and Finance, Marketing and Political Science are next in the production of citations. Compared with the previous work by Nkiko and Adetoro (2007), citations from only social sciences were much more because of increase in the number project report submission and the need for voluminous and varied literature due to the nature of the courses.

Table 3: Average Citation Counts per Report by Department

Department	Citation Counts	Mean of citation per report by Department
Accounting	23,683	**48**
Banking and Finance	6,007	**25**
Business Administration	11,074	**46**
Economics	9,852	**28**
Demography and Social Statistics	3,081	**41**
Industrial Relations	3,964	**42**
International Relations	9,583	**46**
Marketing	6,653	**50**
Political Science	4,357	**27**
Policy and Strategic Studies	1,843	**36**

Figure 3 showed that the department of Marketing had the highest mean score of citation per project report which is 50 citations. This was followed by Accounting with 48 Citations, then Business Administration and International Relations had an average of 46 citations respectively. The least average citation per report was that of Political science 27 which may not be considered as being low as there is no approved standard in literature for measurement.

Type of Cited Materials and Average Citations in each Project Report.

A total of 2, 044 research project reports were assessed. These generated a sum of 80, 097 citations, with an average of 39 citations per report. Table 4 below shows the type of materials cited and their level of citedness.

Table 4: Sources of Cited Materials

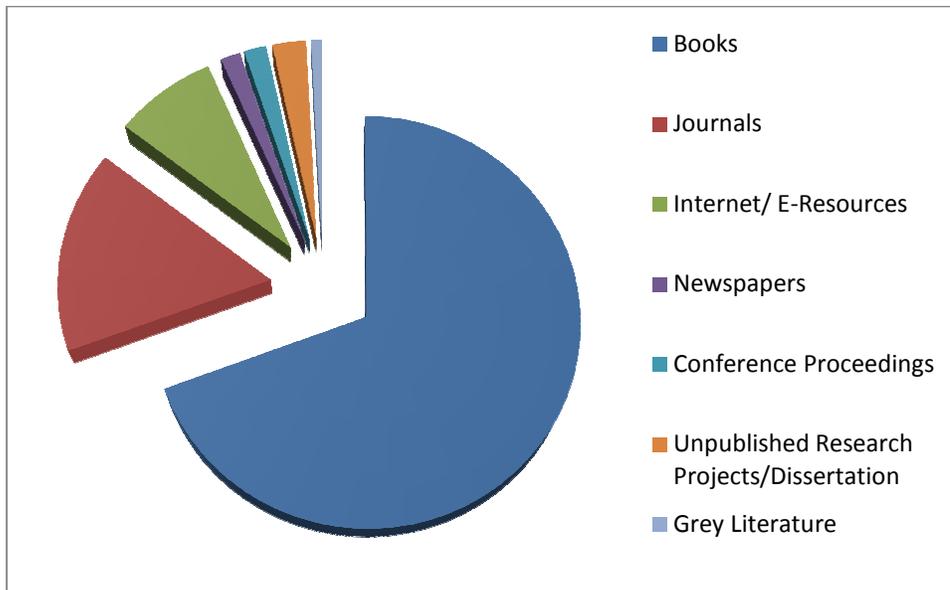| Sources of citation	Citation Counts	Percentage	Rank order
Books	55,588	69.4	1
Journals	12,815	16 %	2
Internet/ E-Resources	6,408	8%	3
Newspapers	1,202	1.5	6
Conference Proceedings	1,362	1.7 %	5
Unpublished Research Projects/Dissertation	2,083	2.6 %	4
Grey Literature	644	0.8 %	7
Total	80,097	100 %	

Figure 2: Types of Materials Cited

Table 4 and figure 2 above showed that the bulk of resources consulted and cited by the graduands is books 69.4% followed by journals 16%, Internet/ E-Resources 8%, Unpublished research Projects/Dissertation 2.6%, Conference Proceedings 1.7%, Newspapers 1.5% and Grey Literature 1%. This finding is still in line with the finding of Nkiko and Adetoro (2007) who discovered that this category of authors cited more books to the tune of 53.3%. It is noteworthy that the movement is upward which is some worth against the tide of the information age. Also there is a wide margin between books and journal citation. This unimaginably wide gap contradicts the result

of a survey by Iroaganachi and Ilogho (2011) which showed that students of this same school prefer online reference sources to books in hard format.

However, the total number of internet /e-resources citations is 6,408 or 8% of the total citations.

The impact of internet/e-resources citations on research reporting by the authors was still insignificant and poor compared to Nkiko and Adetoro (2007). In fact, there is only a little upward movement from 7.7% to 8% in terms of percentage. This finding is also supported by findings of Harter (1998) and Megnigbeto (2006) who reported similar results in a citation analysis of Internet resources. This is a far cry from the conclusion arrived at by Jagboro (2003) in her study of Internet usage in Nigerian universities when she concluded that the use of the Internet for academic research would significantly improve through the provision of more access points at Departmental and Faculty levels. Presently, access point is not really a challenge based on the rate of development in ICT except for subscriptions. Yet Gathoni et al. (2011), in their survey found that usage of e-resources is very low across different institutions of higher learning and this was attributed to various factors such as users' lack of information retrieval skills among others.

Thus, this is likely an indication that there may be some deficiency in information literacy skills of the authors as Gathoni et al (2011) rightly found. It could also be a case of "cut and paste," without proper acknowledgement of web-based materials and/or inability to cite internet/e-resources properly.

Recency of Cited Materials

Citations that falls within the year 2009-2013 are regarded as very recent, 2003-2008 as recent, 1995-2002 not very recent while citations from 1990 and below are classified as not recent.

Table 5: Recency of citations

Year	Recency	Citation count	Percent	Rank Order
2009-2013	Very recent	27,714	34.6 %	1
2003-2008	Recent	16,820	21 %	3
1995-2002	Not very recent	10,733	13.4 %	4
1990and below	Not recent	24,830	31%	2
Total		**80,097**	**100** %	

27,714 (34.6%) of the total citations were *Very Recent*, 16, 820 (21%) citations were *Recent*, while 10,733 (13.4%) citations were *Not Very Recent*. 24,830 (31%) of the total citations were *Not Recent*. 34.6% is not a pass mark in any examination therefore, citation of very recent materials amongst the researchers is poor. Considering the fact that there is increase in knowledge and social science literature, and according to Moed (2006), one criterion for judging the quality of research is time horizon meaning that the older a study, the less cited it becomes thus, it is expected that researchers will seek for more recent materials. Consequently, supervisors need to work more closely with supervisees to ensure that recent materials are given preference in the citations.

Table 6: More frequently cited authors

Department	African Authors		Foreign Authors		Total Citations	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Accounting	2,369	10	21,314	90	23,683	100
Banking and Finance	2,163	36	3,844	64	6,007	100
Business Administration	775	7	10,299	93	11,074	100
Economics	2,759	28	7,093	72	9,852	100
Demography and Social Statistics	1,479	48	1, 602	52	3,081	100
Industrial Relations	357	10	3,607	90	3,964	100
International Relations	1,150	12	8,433	88	9,583	100
Marketing	1,065	16	5,588	84	6,653	100
Political Science	2,701	62	1,656	38	4,357	100
Policy and Strategic Studies	774	42	1,069	58	1,843	100
Total	**15,592**	**19**	**64,505**	**81**	**80,097**	**100**

Table 6 above revealed the author preference of the researchers. It showed that majority of the total citations are foreign authors. 81% citations are by foreign authors while only 19% are by African authors. This is a clear indication that Africans do not write as much as the foreign authors and that the researchers had access to more foreign materials which is suggestive of the fact that Covenant University library holds more foreign materials. This finding buttresses the fact and a truism about Africans "if

you want to any information from Africans put it in a book", that they are not very well disposed to reading thus not to writing because the level at which persons are reading is closely related to their level of writing. According to Oji and Habibu (2011) the difference between African ladies in the university and those in the developed world is that while foreigners have their bookshelves filled with books, the Africans have theirs filled with shoes and makeup. He further stressed that even though these assertions sound derogatory, they may be true.

Out of the ten programmes that were analyzed, only Political Science had more cited African authors (62%) than foreign this may be due to the nature of topics researched and peculiarity of African polity and issues. Business Administration had 93% foreign citations while Accounting and Industrial Relations had 90% each. International Relations had 88%, Marketing 84% and Economics 72% among others. This observation is a clarion call to African academia to rise to their writing responsibilities thus writing to suit the African situations and thereby addressing issues from African contexts and perspectives. Also Librarians are encouraged to strive as much as possible to strike a close balance in acquisition of library materials.

Table 7: Highest and Lowest Citations by Individual Projects

Department	Highest 3	Lowest 3
Accounting	128, 127,92	12,14,18
Banking and Finance	55, 54, 50	9, 13, 14
Business Administration	138, 123, 115	17, 18, 22
Economics	89, 84, 68	11,13,17
Demography and Social	117, 82, 71	8, 16, 19,

Statistics		
Industrial Relations	86, 79, 73	8, 9, 12
International Relations	127, 91, 86	10, 11, 26
Marketing	170, 111, 64	19, 23 25
Political Science	108, 96, 73	15, 16, 18
Policy and Strategic Studies	70, 68, 57,	10, 14, 24
Total		

The highest individual project citation of 138 is from the department of Business Administration. A high citation count reflects depth and diversity in the literature review, as well as a measure of honesty in research reporting. However, this could be an indication of sheer cut and paste considering the limited amount of time allocated to undergraduate projects. For situations such as this a test for plagiarism comes in handy except that these projects under analyses are not in electronic format which makes it difficult to verify. The lowest individual project citation of 8 is from Demography and Social Statistics and Industrial Relations. This is an indication one of many things; that the researchers did not do enough in-depth review of literature. It could also be that they were not properly supervised or much has not been done in their area of study because of novelty. Otherwise it will be a contradiction to the finding on figure 1 above, that social science courses require a lot of voluminous and varied literature due to their nature.

Conclusion and Recommendations

The result of this analysis presents the current status of the trend in use of information resources in Covenant University, thereby providing an opportunity for the library to follow up on evaluation of its collection and utilization. This result reflects a more reliable picture of the most consulted information formats among the Social Science authors and consequently showed the preferred formats of resources by the students in the field.

The authors of these research reports cited heavily from textbook, as against one's expectation of more journal and internet / electronic resources citations. Internet and electronic resources were rather less frequently cited, which could be due to a lack of information literacy skills. The skills could be improved through persistent user education programs.

The average of 39 citations per report generally was discovered which is encouraging, however at the Departmental level, Marketing had the highest mean score of citation per project report which is 50 citations, followed by Accounting with 48 Citations, then Business Administration and International Relations had an average of 46 citations respectively. The least average citation per report was that of Political science 27. The researchers generally cited more foreign authors than African authors. The result therefore, confirmed previous work by Nkiko and Adetoro (2007), and tandem with the findings of most related works in the developing countries that were reviewed while it contradicts the survey by Iroaganachi and Ilogho (2011).

Consequently, the study recommended that project supervisors should maintain that students read material on their topics well ahead of the actual literature review. This would sharpen focus and give direction to the authors, while enriching the work, and be

reflected in the number of citations. Students should choose their research topics early, because haste leads to inadequate reading, resulting in poor citation and a lack of depth. Also, the library must engage in a variety of education and information literacy programmes to address deficiency in information literacy skills of the authors should there be any. They should seek for more recent materials as the more recent the citations, the higher the quality of a research work. There should be lectures on citation of consulted materials especially internet/e-resources, African academia should write and publish more while Librarians are encouraged to strive as much as possible to strike a close balance in acquisition of library materials.

More so, project supervisors should always check citations to prevent students from using fake authors, and protect institutions from mortification of its credibility. Further studies could be conducted in the next five years to see whether degree student's research report citations are consistent with the findings of this study. Finally, studies should in addition examine adherence to referencing and citation styles and gender dimensions of the citations.

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