

Traditional and Modern Methods of Research Publication Outputs in Nigerian Universities: Its Economic Implications

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Abstract

This study examined the economic implications of traditional and modern methods of research publication outputs in Nigerian universities. Non experimental design involving descriptive research of the survey type was used for this study. The population of the study consisted 171(92 public and 79 private) universities in Nigeria with 79,254 members of staff (61,000 academic staff and 18,254 academic staff of public and private universities respectively). Multi-stage sampling technique was adopted for the selection of 285 respondents. Structured questionnaire titled “Economic Implications of Traditional and Modern Methods of Research Publication Outputs (EITMMRPO)” was used for data collection. The reliability coefficient of 0.89 was obtained using Cronbach alpha method. Data collected were analysed using Chi-square (2) to test formulated hypotheses at 0.05 level of significant. Findings from the study revealed that academic staff of both public and private universities spent more of their money on traditional method of research publication outputs than that of modern method. It was recommended among others that, government and school management should motivate academic staff in terms of research publication outputs through financing both traditional and modern methods of research publication outputs.

Keywords: Economic implications, traditional-modern methods, research publication outputs

Introduction

Education must be able to produce middle-level and high-level manpower with the requisite knowledge, skills and competencies needed to drive the country's quest for sustainable development and increased national prosperity through research. In the process of achieving this goal, research need to be conducted in order to proffer solutions

to the challenges. Research publication in universities has become a major criterion of academic success in the competitive environment of global universities. The major responsibilities of academics in the universities are teaching and research as well as, to lesser extents, administration and community services. Research productivity is the number of publications per researcher, distinguishing it from impact. Research comprises creative and systematic work undertaken to increase the stock of knowledge, including knowledge of humans, culture and society, and the use of this stock of knowledge to devise new applications." It is used to establish or confirm facts, reaffirm the results of previous work, solve new or existing problems, support theorems, or develop new theories. Research comprises defining and redefining problems, formulating hypothesis or provide solutions, collecting, organising and evaluating data, making decisions and carefully testing the conclusions to determine whether they fit the formulated hypothesis. Research is a process of finding solution to a doubt and making further recommendations and suggestions for improvement. It is also a discovery of a new fact on new existing phenomenon. The 21st Century Webster's International Encyclopedia defined research as the "use of appropriate methods to discover new knowledge, or explore relationships between ideas or events". On the other hand, the Office for Human Research Protections of the Cardinal Stith University in Romanus (2013) observed the research as a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge.

Okonedo, Sunday, Sunday and Olusola (2015) opined that research and publication have been and will continue to be a critical factor to reckon with in the career life of educators or academicians especially those in the academic environment. It is well-recognized verity that the quality and quantity of university research is one of the yardsticks of measuring its academic accomplishment and excellence for economic and educational development. Research productivity outputs are worthy as the quality and quantity of their publications as determining the its economic implications in their performance evaluations, promotions, tenure, research grants, and salary increment. Research publication outputs are knowledge productivity. Research publication outputs, therefore, are expressed by the entirety of researches conducted by academic researchers in universities in their career over a specified period of time. Zainab in Romanus (2013) argued that research publication output concerned with an outcome of research which appears in print and are usually embodied in research communications in the formal sense. Zainab considered research publication outputs as reports, books, journal articles, sections of books, technical reports, transactions, edited works, patents, standards and preprints. Similarly, Edem in Romanus (2013) considered research publication outputs as the number of books, chapters in books, journal articles and other related research output such as bibliographies, abstracts and indexes that are published. Department of Education of South African University as cited by Madye in Romanus (2013) defined research publication outputs as any research publication accepted by any evaluation body for promotion and other evaluation exercises. Research publication outputs include journal articles, conference

papers presentations, chapters in books and books for career progression and promotions

Holden, Rosenberg and Blaker (2005) observed that the peer-reviewed research publications are the primary unit by which academic faculties and educational programmes are judged while Popoola (2008) pointed out that research publication output is one of the major determinants of academic staff productivity in higher education for the promotion and the development of education system and improve the qualities of teaching and learning. It enables academic staff members to share insight, demonstrate academic scholarship, gain recognition for creative thinking and finally to develop a reputation for expertise in a specialty area. Research publication outputs partly determine both local and international recognition and respect for academic staff and academic institutions generally. In any area of specialization, it provides current information for growth, development, progress and improved society well being as well as country at large.

Bassey, Akwegwu, Udida and Udey (2007) observed that research publication outputs are very significant in the lives of academic staff and higher education generally; hence their promotions are almost entirely dependent on it and provide solutions to the higher education academic challenges. It is obvious that publication output does not only influence the career development of academic staff, it also attracts both local and global attentions to academic institutions. Such attentions could be in the form financial grants, partnership and research collaborations. Wise and Fisher (2004) believed that the benefit to universities could be seen from the influence publication output has on academic programmes accreditation by professional organizations and the level of funding universities and higher other educational institutions enjoy from the government. Adomi and Mordi (2003) stated that, publishing in foreign journals helps to project the image of not only the author but their universities in other parts of the world. It has been noted that faculty publishing productivity is often used as index of departmental and institutional prestige and is associated strongly with an individual faculty member's reputation, visibility and advancement in academic reward structure. Research publication outputs in Nigerian universities rest largely on the quality, and often the quantity of research published as textbooks, or chapters in books, journal articles, conference/workshop proceedings, occasional papers, monographs, edited books, bibliographies, abstracts, and indexes published from different geographical location.

In the same road map, Sabo (2005) argued that the main criterion for ranking world class universities is not so much the volume of teaching, students' population or community services but research publication output. Sabo further opined that, knowledge discovery, accumulation and dissemination is what placed the advanced countries at the top, by their control of social and human capital information, economic development and improved standards of living through building human capital development by research. Based on the significance of research publication outputs in the lives of academic staff and university

development, academic staff have continued to seek for the right quality and quantity of educational resources that will enhance their research publication outputs. Apparently, the level of academic activities including research activities in any tertiary institution is directly a function of the quality and quantity of educational resources available in the institution's library, their accessibility and utilization by both staff and students.

Traditional method of research publications output has to do with the hard copy production of scholarly articles in journals, book of readings or chapters, book of abstracts or proceedings, workshops, seminar papers, etc in such way that each contributor will have the hard copy after the final production. This differs from e-publication or modern research publication where it basically on soft or internet. Presently, modern method of research publication seems to be one of the leading publications in Nigerian universities during this Coronal Virus Disease (COVID-19) pandemic where there is only e-conferences, e-seminars, e-workshops, etc. Modern method of research publication includes the digital publication of e-books, e-journals, e-digital magazines, and the development of digital libraries and catalogues. It also includes an e-editorial aspect that consists of e-editing books, e-journals or e-magazines that are mostly destined to be read on a screen. An academic or scholarly journal is a periodical research publication in which scholarship relating to a particular academic discipline is e-published. Academic journals serve as permanent and transparent forums for the e-presentation, e-scrutiny, and e-discussion of research.

Adedapo and Adedapo (2014) argued that at the early 1980s, Nigeria had entered a period of economic crisis, culminating in the adoption of the Structural Adjustment Program (SAP) of 1986. One of the immediate consequences of this was the steady and calamitous devaluation of the Nigeria currency which began to yield ground to the US dollar. The exchange rate plunged from a height of N1 to US 65 cents in 1979 to N35 to US\$ 1 by the late 1980s. In this pandemic date of 29th July, 2020, the ratio is one dollar to N475 in the black market. Another consequence of the economic depression was the general neglect of tertiary education and the specific marginalization of courses or subjects which were not considered directly relevant to the nation's quest for technological development. This entailed, on the one hand, a deliberate recruitment of some of the most articulate scholars and critics into top government positions (as ministers, advisers and ambassadors), and on the other hand, a series of repressive policies in dealing with the legitimate demands of academic staff and student unions. Adedapo and Adedapo further opined that the crises had a direct negative implication on academic research and publication outputs that many outstanding scholars simply fled the country's tottering ivory towers for more stable climes and those who did not leave by choice or lack of it were distracted into pursuits aimed at ensuring their material survival. Some left the academia for business or the private sector which offered greater financial remuneration and material comfort. Others still simply vegetated as education facilities proved increasingly obsolete and grossly

underfunded. Education could no longer subscribe to current journals and, consequently scholars could no longer keep pace with developments in their fields. Many dropped out of the race and stopped writing for international journals which routinely rejected manuscripts that attempted to disseminate outdated concepts and intellectual arguments.

Okonedo et al (2015) viewed public universities in Nigeria as those higher educational institutions established by government and controlled by the Ministries of Education which holds ultimate authority over public universities. Public universities in Nigeria are referred to as universities predominantly funded by public means (taxes) through national or state governments. Consequently, there are federal and state universities in Nigeria. In Nigeria today, private universities have a diametrically opposite status and it considered prestigious and of a higher quality than the public universities. Also in the recent developments in the area of private university education have resulted in one of the most outstanding sub-sectoral growth rates ever witnessed in the country's education sector (NUC, Erinosh, in Ahunanya & Tony, 2012). Private university has been described as encompassing a broad range of institutions that are self-financing (profit-making enterprise as any other corporate entity), as well as those that receive partial public funding support and public institutions that run profit-making courses (Varghese, 2002). The private university, according to the outcome of a recent international survey, is the fastest growing segment in higher education in all countries examined in the case studies (UNESCO, 2003). The growth in the number of private universities has outstripped by far that of public institutions to the extent that the number of private education institutions now exceeded those of the public sector in CIS countries where the changing political scenario has been identified as an influential factor (UNESCO, 2003a)

Omomia, Omomia and Babalola, (2014) observed that it is common knowledge that in most developed economies of the world; the role of the private universities is tremendously articulated and appreciated. It is agreed by such economies that the involvement of the private sector will act as a catalyst for sustainable development. As a result, the private sector is involved in education, telecommunication, health, transportation (air, road, sea, rail etc) and so on. This approach is premised on the fact that the government alone cannot adequately run these various enterprises. The Nigerian government, before this present dispensation, had been involved, to a large extent in the running of educational sector. The government had, for a long time, either through the state or federal, managed university education. Based on this scenario, the government definitely needs private universities participation in the quest for educational development, for sustainable national development. Abdulla, Zemri and Mazreku (2013) analyzed some current issues related to the study, and urges to resolve some current problems of the amount of payment, quality of teaching, stereotypes created by the individual cases and so on and found out that there are not major differences between the two faculties concerning the quality of knowledge, what is required is reproduction of the material.

Zainab in Romanus (2013) found out that in more cases, the correlates were significantly related to publication productivity of academic scientists than engineers. The significant correlates were experience, percentage of time spent on research, total amount of funding, laboratory supports and using formal resources (journals, library accession lists, and special bibliographies) to keep abreast with research information. Tower, Desai, Carson and Cheng (2005) found out that only 5% of Australian accounting academic staff engaged in research and 1.6% had postgraduate student research completions. Also they found out that there was very low research output in accounting and the few research activities in this discipline were found among lower level academic staff in Accounting Department. Zainab in Romanus (2013) considered the following as the factors influencing publication output rank, ability to secure research grants, qualification and gender. Olumuyiwa, Mukaila, Charles, Idris, Abedeen, Bolayemi and Olayinka (2018) results showed that the quality of lecturers (as measured by cadre/status/grade and qualification) employed by public universities was higher and better than those employed in private universities. On a general note, lecturers in public universities enjoyed more support for research and publication than their counterparts in private universities but lecturers in private universities were found to be better than their counterparts in public universities in terms of access to financial support for compulsory annual research leave and organization of seminars and conferences for staff by the institutions.

Okonedo et al (2015) found out that librarians' level of self-concept was high and there was a significant relationship between self-concept and research productivity and only job tenure was found significant with research productivity among the demographic factors tested and established that the joint effect of demographic factors and self-concept on research productivity was not significant. Edem in Romanus (2013) found out that there was no significant difference between male and female librarians with respect to their publication outputs. In order words, gender is not an influencing factor in the publication output of librarians in Nigerian universities. The implication of these findings is that if publication output is considered an important factor in the professional development of librarians their discrimination in terms of gender when recruiting librarians should be completely avoided. Baro, Oni and Onyenania (2009) found out that male academic librarians published more than their female counterparts. Hal and Barry (2000) findings revealed that public managers do not differ from business managers on perceptions about organizational formalization, in spite of assertions that government agencies have more red tape and rules than private firms have.

Agha and Udu (2019) result indicated that TET Fund intervention to a high extent has no significant impact on quality and relevant research by employees of state owned universities in south East Nigeria. This was attributed to the fact that funds allocated to these institutions overtime were under accessed due to the institutions' inability to meet conditions set by TET Fund for continuous access and many academics staff who access research grants use part of them to take care of their personal needs leaving a paltry sum for

research. TETFund had complained that 90 percent of lecturers' research proposals were very poor and un-fundable. Several other reasons have been adduced for not accessing the fund for research. Dayo (2014) reported that incomplete documentations on the part of the institutions applying for the fund is one of the reasons for not accessing these funds. According to Eno-Abasi (2015) many institutions complained that the process of accessing the fund is cumbersome. TETFund cannot take all the blames as the managers of the institutions are also to be blamed for not publicizing the call for proposals. Another hindrance is the in-house politics at the level of submission at the institution level. This is because it is the responsibility of the institutions to forward the selected proposals to TETFund for further consideration and approval. Delay in the documentation of the proposal hinders access. Therefore, it is pertinent that the lecturers and the managers of the institutions collaborate for successful completion of the proposals and access the fund earmarked for them.

Research publication outputs comprised both public and private universities and examining the publication of the universities represents a substantial and growing body of empirical evidence, relevant to many international and domestic issues in security, political, economy, socially, academically and institutional theory such as the privatization of public services. Research publication output is a major indicator of academic staff productivity. Its importance is evident in faculty decisions on academic staff appointments, tenure, career development, promotions, institutional assessment, ranking and recognition both locally and internationally. In view of this, members of academic staff need to conduct research regularly in order to meet the required publication output hence their career advancement hinges on it. Lack of information creates a gap in the knowledge of the economic implication of the modern and traditional methods of research publication output. As a result of this, many academic staff or scholars affected economically, socially, politically, psychologically, and academically, previously to the extent they cannot build their human capacity in order to conduct effective research for publications. Therefore, the thrust of this study, was to assess the economic implications of traditional and modern methods of research publications outputs in Nigerian universities in relation to public and private universities in Nigeria.

Research Hypotheses

The following hypotheses were generated and tested at 0.05 level of significance:

1. There is no significant difference between the cost of traditional and modern methods of research publications output in Nigerian Public Universities.
2. There is no significant difference between the cost of traditional and modern methods of research publications output in Nigerian Private Universities.

Methodology

The non-experimental design involving the descriptive research of the survey type was used in this study. The population of this study consisted 171 (92 public and 79 private) universities in Nigeria. According to the Nigerian University System Statistical Digest 2017, there were about 61,000 academic staff strength. That number is in decline as many lecturers who retired, died or left the universities for greener pastures abroad have not been replaced and that of 18,254 academic staff in private university. A multi-stage sampling technique was adopted for the selection of 285 academic staff as the respondents. In the first stage, three geopolitical zones were selected using simple random sampling technique. The names of the zones were written on piece of papers, folded and put in a container, shuffled and the researchers drew the area zones with replacement (i.e. balloting with replacement). At the second stage, 3 universities were selected from each zone totaling (9 universities) for the study using purposive sampling technique based on ownership of the universities (Private and Public}. At the third stage, 19 members of academic staff were selected as the respondents from each of the 9 universities for the study.

A structure questionnaire titled economic implications of traditional and modern methods of research publications outputs (EITMMRPO) was used as an instrument for data collection. The questionnaire items for this study were designed by the researchers to survey the economic implications of traditional and modern methods of research publications outputs in Nigerian universities. Section 'A' contains bio-data of the respondents. Section 'B' contains questionnaire items based on a five point likert type scale bearing Strongly Agreed (SA), Agreed (A), Undecided (U), Disagreed (D), and Strongly Disagreed (SD) and scored as 5,4,3,2,1 by weight respectively. Each respondent is expected to tick (v) only on the option presented in the questionnaire. Face and content validity of the instrument were assessed by the two experts in Economics and experts in measurement and evaluation. The experts examined and corrected necessary areas. In order to ascertain the reliability of the instrument, a pilot test was conducted among 45 respondents with 3 universities in both public and private universities in North Central States of Nigeria. The Universities used were not part of the sample of the actual study but has some similarities with sampled universities of the main study.

The scores obtained from the test were subjected to Cronbach Alpha (1951) which yielded a coefficient of 0.89. Emaikwu (2013), if an index of reliability is above 0.70 the instrument is reliable for the study. For the administration of the instrument, the researchers visited each sampled university through e-instrument administration. To accomplish that, the e-questionnaire related the objective of the study and the guidelines on how to complete the e-questionnaire was stated in order to guide the respondents appropriately. The first 19 respondents that turned in their responses were used for the purpose of data analysis. Data collected were analyzed using inferential statistics of Chi-square (χ^2) to test formulated

hypotheses at 0.05 level of significance.

Results

Hypothesis 1: There is no significant difference between the cost of traditional and modern methods of research publications output in Nigerian public universities?

Table 1: Chi-square λ^2 test of significance difference between the cost of traditional and modern methods of research publications output in public Universities

Variables	No of Respondents	df	λ^2 Cal	λ^2 tab	Decision
Traditional	240	283	1.88	1.96	H ₀ Rejected
Modern	45				

Table 1 showed the λ^2 statistics results for significant difference between the cost of traditional and modern methods of research publications output in Nigerian public universities. It is evident that at 0.05 level of significance and degree of freedom of 283, the λ^2 value of 1.88 for significance difference between the cost of traditional and modern methods of research publications output in Nigerian public universities which is less than the critical value of 1.96 was obtained. Therefore, since the calculated value of λ^2 is less than the critical value, the null hypothesis was not rejected. Hence, there was no significant difference between the cost of traditional and modern methods of research publications output in Nigerian public universities. This implies that, the cost of research publication outputs in the case of traditional method is as costly as that of modern method in terms of research publication outputs.

Hypothesis 2: There is no significant difference between the cost of traditional and modern methods of research publications output in Nigerian Private Universities.

Table 2: Chi-square λ^2 test of significance difference between the cost of traditional and modern methods of research publications output in Nigerian private Universities.

Variables	No of Respondents	df	λ^2 cal	λ^2 tab	Decision
Traditional	270	283	1.91	1.96	H ₁ Rejected
Modern	15				

Table 2 showed the λ^2 statistics results for significant difference between the cost of traditional and modern methods of research publications output in Nigerian private universities. It is evident that at 0.05 level of significance and degree of freedom of 283, the λ^2 value of 1.91 for significant difference between the cost of traditional and modern methods of research publications output in Nigerian Private Universities is less than the critical value of 1.96. Therefore, since the calculated value of $\lambda^{2\text{cal}}$ is less than the critical value, the null hypothesis was not rejected. Hence, there was no significant difference between the cost of traditional and modern methods of research publications output in Nigerian Private Universities. This implies that, traditional method, in terms of cost is equivalent of modern method in terms of research publication outputs.

Discussion

First finding from the study revealed that the cost of modern research publication output was not less than that of traditional method. This finding contradicted with the result of Zainab in Romanus (2013) who found out that there was significant relationship between publication productivity of academic scientists and that of engineers. The correlates responsible for the significant relationship were experience, percentage of time spent on research, total amount of funding, laboratory supports and using formal resources (journals, library accession lists, and special bibliographies) to keep abreast with research information. The finding further related to the research work of Tower, Desai, Carson and Cheng (2005) who found out that 5% of Australian accounting academic staff engaged in research and 1.6% had postgraduate student research completions. The findings of Tower, Desai, Carson and Cheng also showed that there was very low research output in accounting and the few research activities. The also related to work of Okonedo, Sunday, Sunday and Olusola (2015) who found out that librarians' level of self-concept is high, so also their research productivity; there is a significant relationship between self-concept and research productivity and only job tenure was found significant with research productivity among the demographic factors tested and established that the joint effect of demographic factors and self-concept on research productivity was not significant.

Second finding from the study showed that there was no significant difference between the cost of traditional and modern methods of research publications output in Nigerian Private Universities. This contradicts work of Olumuyiwa, Mukaila, Charles, Idris, Abedeen, Bolayemi and Olayinka (2018) who found out that the quality of lecturers employed by public universities was higher and better than those employed in private universities. On a general note, lecturers in public universities enjoyed more support for research and publication than their counterparts in private universities but lecturers in private universities were found to be better than their counterparts in public universities in terms of access to financial support for compulsory annual research leave and organization of seminars and conferences for staff by the institutions. Agha and Udu (2019) result indicated that TETFund intervention to a high extent has no significant impact on quality and relevant research by employees of state owned universities in south East Nigeria. This was attributed to the fact that, funds allocated to these institutions overtime were under accessed due to the institutions' inability to meet conditions set by TETFund for continuous access and many academics who access research grants use part of them to take care of their personal needs leaving a paltry sum for research.

Conclusion

Based on the findings of the study it was concluded that the major responsibilities of academic staff in the modern high institutions are teaching and research as well as, to lesser extents, administration and community service. Research productivity outputs are the number of publications per academic researcher, distinguishing it from impact. Research comprises creative and systematic work undertaken to increase the stock of knowledge, including knowledge of humans, culture and society, and the use of this stock of knowledge to devise new applications. The findings reveal that publication output of academic staff of public universities comprises mostly of articles in traditional method and it costs equivalently as the modern method. This implies that, academic staff in private university spent almost equivalently the same money on traditional method of research publication with their counterpart of public universities. Research publication outputs in Nigerian universities based largely on quality and quantity research published as textbooks, chapters in books, journal articles, conference/workshop proceedings, occasional papers, monographs, edited books, bibliographies, abstracts, and indexes published from different areas of specialization and geographical locations.

Based on the findings of this study, the following recommendations are made:

1. Academic staff of public universities should be encouraged on both traditional and modern methods of research publication outputs and tertiary education trust fund should be made available accessible with ease for” academic staff to attend conferences, seminars and workshops.

2. Proprietors of private universities should allocate adequate funds to research activities in their institutions by granting more access to research grants and providing more financial support for academic staff in order to attend conferences, seminars and workshops.

References

- Abdulla, A., Zemri, E., & Mazreku, M.A. (2013). Competition between public and private universities: International experiences and case of Macedonia. *Journal of Educational and Instructional Studies in the World*, 1(2), 1-2.
- Adedapo, A. A & Adedapo, A. P. (2014). Scholarly publishing in Nigerian Universities: The Ibadan University Press Experience.
http://www.culturaldiplomacy.org/academy/content/pdf/participantpapers/2014biec/Adeolu_Alex_Adedapo_and_Anne_Pauline_Adedapo_Scholarly_Publishing_in_Nigerian_Universities_The_Ibadan_University_Press_Experience.pdf
- Adomi, E. E. & Mordi, C. (2003). Publications in foreign. *Journals and Promotion of Academics in Nigeria*, 16(14), 229-235.
- Agha, N. C. & Udu, G. O. C. (2019). Quality and relevance of tertiary education trust fund intervention researches in tertiary institutions in south east Nigeria (2010-2015). *International Journal of Development and Management Review (INJODEMAR), Asian Review of Accounting*, 13(2), 68-83.
- Ahunanya, S. & Tony, O. (2012). Private universities in Nigeria: Emergent realities and coping strategies. *Journal of Emerging Trends in Educational Research and Policy Studies (JETERAPS)*, 3(5), 695-700.
- Baro, E. E., Oni, O. & Onyenania, G. O. (2009). Gender and publication output of librarians in Edo and Delta State university libraries in Nigeria. *Performance Management and Metrics*, 10(3), 180-192.
- Basse, U., Akuegwu, B., Udida, L. & Udey, F. U. (2007). Academic staff research productivity: A study of universities in South-South Zone of Nigeria. *Educational Research and Review*, 2(5), 103-108.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*. Macmillan.

- Dayo, A. (2014). Nigeria N100 billion TETFund un-accessed by tertiary institutions - BOT chairman. File:///E:/tETFund/NigerianN100billion TETFundun accessed by Tertiary institutions.
- Emaikwu, S. O (2013). Fundamentals of research methodology and statistics. Selfers Academic Press Limited.
- Eno-Abasi, S. (2015). TETFund: Pendulum swings in favour of raised tax. The Guardian September 10. File:///f:tETFund/TETFund Pendulum swings in favour of raised tax
- Madye, S. M. (2007). The measurement of research output of public higher education institutions in South Africa: Hurdle or handle? Unpublished M.Ed Thesis, University of Pretoria.
- Okonedo, S., Sunday, O. P., Sunday, O. E & Olusola, B. B (2015). Correlational analysis of demographic factors, self-concept and research productivity of librarians in public universities in South-West, Nigeria. *International Journal of Library Science*. 4(3), 1
- Olumuyiwa, V., Mukaila, O., Charles, I., Idris, S., Abedeen, S., Bolayemi, A. & Olayinka, D. (2018). "A comparative study of lecturer quality and support for research output in selected public and private universities in Southwest, Nigeria," Proceedings of teaching and education conferences. *International Institute of Social and Economic Sciences*. <https://ideas.repec.org/p/sek/itepro/8308651.html>
- Omomia, O. A., Omomia, T. A. & Babalola, J. A. (2014). The history of private sector participation in university education in Nigeria (1989-2012). *Research on Humanities and Social Sciences*. www.iiste.org. 4, (18)
- Popoola, S.O. (2008). The use of information resources and services and its effect on the research output of social scientists in Nigerian universities. *Library Philosophy and Practice*. <http://www.webpages.uidaho.edu/~mbolin/popoola.htm>.
- Romanus, O. A. (2013). Library resources utilization and publication output of academic staff of polytechnics in south-east and south-south Nigeria. An unpublished thesis, Department of Library and Information Science, University of Nigeria. Nsukka.
- Sabo, B. (2005). Universities, research and development in Nigeria: Time for paradigmatic shift. Paper presented at the 11th CODESRIA General Assembly at Maputo, Mozambique <http://www.codesria.org/links/conferences/generalassembly/papers/sabo.pdf>
- Tower, G., Desai, R., Carson, B. & Cheng, S. (2005). Better understanding of research performance. *Asian Review of Accounting*, 13 (2), 51 - 67.

UNESCO (2003). Recent developments and future prospects of higher education in Sub-Saharan African in the 21st century, Paris.

UNESCO (2003a). Report on trends and developments in higher education in Europe Paris.

Varghese N.V. (2002). Policy forum held in Tbilisi, Georgia, IIEP Newsletter. *Journal of Emerging Trends in Educational Research and Policy Studies (JETERAPS)*,3(5), 695.

Wise, V. & Fisher, C. (2005). Scholarly journal output: A regional perspective.