

## Trends in Research Collaboration: Experiences in Tanzanian Institutions of Higher Learning

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**DOI Link:** <http://dx.doi.org/10.6007/IJARBSS/v5-i1/1418>

**Published Date:** 16 January 2015

### Abstract

This study investigated trends in research collaborative network among Tanzanian institutions of higher learning. The study focused primarily on online journals based on the fact that they can be easily accessed and stored as compared to print media. It employed a concept analysis design because it didn't make use of field-based study. It used convenience sampling to get 118 online Journals authored by educators in Tanzanian institutions of higher learning. The findings indicate the majority of sampled articles were authored without collaboration, an aspect that reduces research quality and credibility. It is also worth noting that majority of collaborative authorship involved inter institutional collaboration. This suggests that university educators need to be encouraged to continue with national and international collaboration in order to increase university efficacy in terms of research and publications. Finally, the rate of domestic collaboration was higher than that of international collaboration. While this is recommendable, there needs to be a leap for more rates in international collaboration. This can be achieved through capacity building on the importance of local and international collaboration.

**Keywords:** Trends, Research, Collaboration, Higher Learning Institutions, Tanzania

### 1. Introduction

The world is fast moving from individualism to collaborative network that necessitates researchers to solve problems innovatively and collaboratively through research findings. As scholarly collaboration can mean joining hands together in researching on current issues and existing problems, it could also mean dissemination of research findings that may help to solve existing problems in different parts of the world collaboratively rather than individually. While this fact is a reality in the international community, it remains true in the Eastern Africa

community of researchers. This can be seen in the research conference organized by United Nations Economic Commission of Africa (UNECA) and the Inter University Council for East Africa in Uganda from February 22 to 23<sup>rd</sup>, 2010, whose network theme was, “Promoting East African Network of Research Excellence.” One of the objectives of the two-day meeting was “to provide an avenue for linking up prominent scientists, researchers and technologists within the Eastern Africa Region with a view to creating and enhancing research relationships and collaboration, facilitating academicians, scientists, researchers, practitioners and technologists in joint undertakings” (VicRes Newsletter, 2010, p. 7).

In his opening remarks of the research, expertise, and practitioners’ meeting from the East Africa Region, Nyaigoti-Chacha (2010, p.14) pointed out that “a lot of research was going on within the Eastern Africa region but little knowledge of it was evident” (IUCA Newsletter, 2010, p.14). This statement could imply two possible meanings: first, a lot of research started off but did not come to its accomplishment, or a lot of research was conducted but results of it were not disseminated. In addressing this issue he also stressed that “the current global trends demands a lot of networking in order to gain more from research” (Ibid, p. 15). Two years later, President Kagame of Rwanda “urged IUCEA to facilitate the development and sharing of digital learning resources amongst universities in the region”(IUCEA Newsletter,2012, p. 7).

A recent study of Bangi and Sahay (2014) showed a positive relationship between University efficiency and research, publication and consultancy. The study further stipulated that research and consultancy are the most influential factors to University efficiency. It is not an overstatement to argue that, the Tanzania Universities are not doing properly in this area. Specifically, the study concluded that Universities in Tanzania are inefficient in generation of research publications and consultancy services and that Tanzania spends much resource for production of graduates at the expense of research and publication despite knowledge dissemination being one of the core University roles.

These findings are in harmony with that of Kipesha and Msigwa (2013) which indicated that Tanzanian public Universities are inefficient in generating internal resources through research and consultancy. These findings suggest that research and publication services are lagging behind, something which results in lower University efficiency. Therefore, in response to this problem, this paper investigates trends in research collaborative network among Tanzanian institutions of higher learning. The study focuses primarily on online journals. Although online journals cannot completely replace printed publications, yet they remain to be important in terms of quick access and easy storage. We therefore argue that it is more likely for online journals to be easily and quickly accessed globally than printed ones.

This paper further maintains the goal to find out the extent to which researchers in higher learning institutions in Tanzania collaborate and disseminate research findings through online journals. It also investigates collaboration trends in research, particularly in terms of number of authors per article, inter-institutional co-authorship and international collaboration. Particularly, this paper attempts to answer one research question namely: What is the rate of collaboration in research and publication among educators in Tanzanian institutions of higher learning in term of experienced-upcoming researchers, number of authors per article, inter-institutional collaboration, and international collaboration.

## 2. Review of Related Literature and Studies

The concept of collaboration in research is not new. Thirteen years ago, Ravid and Handler (2001) pointed out that university collaboration models could be found in books, articles, and conference presentations from the previous 20 years. They also explained that the collaboration relationship may be between institutions or between individuals from different universities. The essence of research collaboration is thoroughly expressed in the existing literature. For instance, Lee (2000, p. 111), argued in his study that “participants in research collaboration appear to realize significant benefits, some expected and others unexpected.” The research further revealed that “an overwhelming majority of ... participants *under investigation indicated* that in the future they would expand or at least sustain the present level of collaboration.” All of these findings suggest that research collaboration among universities is destined to remain of the quality assurance benchmarks for many years to come.

In addition to that, the International research collaboration (2009, p.1) contends that “Collaboration also plays a key role in the training and development of highly qualified personnel.” On the same note, Davenport, Charlotte and Davies (2007, p. 55, 56) conducted a study in New Zealand on Research collaboration and behavioral additionally: A New Zealand case study and came up with contention that “collaborative research programs ... produce more benefits or additionally for the nation .... They also contend that “collaborative research ... is of interest to both firms and governments, the former in order to gain optimal benefit from such collaborations, the latter in order to refine and improve such programs to maximize national benefit.”

Rodríguez et al. (2010, 277) regard “collaboration in the scientific realm as a reflection of the interaction of individual networks which, in turn, reflect institutional and global networks.” According to Karell (2002, p. xxxiii), “collaboration usually works to signify the process of individual writers deliberately coming together to compose a text.” He adds, “It is a situation where two or more authors, each regarded as an individual, coherent identity, *putting* their respective unique contributions side by side to create what is then called a collaborative text” (p. 3). According to Hackett (2005) in Aydinoglu (2013, p. 1) “scientific collaborations are a family of purposeful working relationships between two or more people, groups, or organizations to research phenomena, to develop a scientific instrument or technology, to build a facility, and to publish a study.” International research collaboration (2009, p. 1) defines research collaboration in a more extended way as taking:

Many different forms. ... When researchers engage ... in consultations, provide advice, participate in site visits, conferences or create complementary research agendas. Other, deeper forms of cooperation include joint research projects, the sharing of research facilities ... allowing access to research data and discoveries, and the linking of research centres and virtual networks.

While collaboration in research is considered to be an important factor for university efficiency (Kipsha & Msigwa 2013), the idea of collaboration is supported by biblical literature which states “Two are better than one, for they have a good reward for their labor” (Ecclesiastes 4:9 KJV). Most of literature on collaborative research focuses on partnership created for a specific research project involving academicians working with colleagues from other institutions (Richards, Elliott, Woloshyn & Mitchel, 2001). As argued by Crawford, Minde, Colverson, Freed and Haggblade (2011), collaboration in research improves research quality in two ways: first, by bringing together researchers from different universities and private sectors, whose complementary areas of expertise can bring about better results due to

combined effort rather than working in an individualistic approach. Secondly, by providing greater opportunities for staff to strengthen their research skills. The essence of co-authorship in higher education institutions is further pointed out by Chancellor's Doctoral Initiative Program (Retrieved November 17, 2014) in that unless experienced and/ or senior faculty members collaborate with inexperienced and/ or junior faculty members to write and publish, research culture will remain dormant. Particularly, it is held that:

Publishing establishment depends upon the reputation and history of the author as one element when deciding whether to publish a manuscript. As a result it can be difficult for junior faculty members to break into the publishing world at the beginning of their career. One way to begin establishing a reputation is to affiliate with established faculty members and collaborate on work that is likely to be published.

This calls for experienced researchers such as professors and senior lecturers to see to it that they do their research publications with junior lecturers in order to awaken the publication zeal in their career journey (Ibid.).

As noted by Tettey (2010) in Crawford et al, (2011), the backbone or the foundation of university's business is handling of knowledge through teaching via academic degree programs and research output. Katharaki M and Katharaki, G (2010, p. 115) further hold that "universities are knowledge organizations; their core objectives are to generate, acquire and transfer knowledge." With this background, like in many other countries in the global, higher learning institutions in Tanzania need to collaboratively write and publish research findings in order to raise university efficacy and pave ways for educators' exposure with researchers from other parts of the world and professional growth.

### **3. Conceptual Framework Model**

This study was guided by a paradigm in a pyramidal form that has four types of collaboration (see figure 1). This pyramid is a graphical description employed by the study to show the integration of concepts. It is made of four small pyramids, which make one big pyramid, meaning collaborative research, efficiency and impact is possible when there is senior-junior researchers' collaboration; inter-institutional collaboration and finally international collaboration.

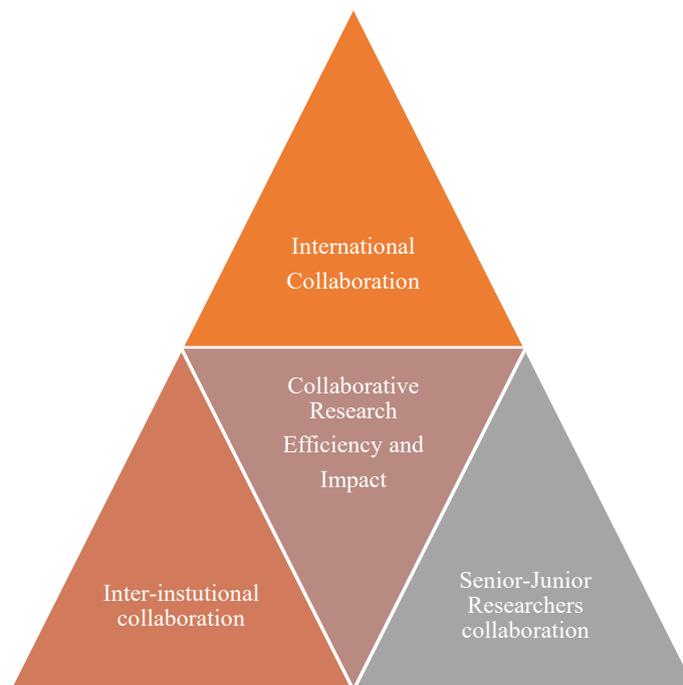


Figure1.

#### 4. Research Methodology

This study employed a concept analysis design which falls under the umbrella of qualitative approaches. This design does not need a fieldwork, therefore non-interactive in nature. According to McMillan and Schumacher (2006), it is a form of analytical research which investigates concepts and documents through an analysis of documents. The authors further add that, in this kind of research design, the researchers identify study and then synthesize the data to provide an understanding of the concept or past event. This design became useful because the study does not employ neither questionnaires nor interviews items which are fundamental in all empirical studies. As stated earlier, the study explores the trends in research collaboration and experiences in Tanzanian Institutions of Higher Learning as evidenced in local and international online journals. The reason for narrowing the scope to Tanzania academics is for the purpose of addressing the problem as well as enhancing manageability.

##### 4.1. Sampling Procedures

Convenient sampling procedure was used in this study to obtain 118 journal articles. Mugenda and Mugenda, (2003, p. 51) define convenient sampling as one that “involves selecting cases or units of observation as they become available to the researcher.” The researchers went online and searched for convenient interdisciplinary journal articles, published between January 2012 and November 2014 by university lecturers in Tanzania from 17 online journals namely: Asian Economic and Financial Review, American Journal of Educational Research, British Journal of Education, European Journal of Business and Management, Mount Meru University General Education Journal, HURIA Journal of the Open University of Tanzania, International Journal of Academic Research in Progressive Education and Development, International Journal of Asian Social Science, International Journal of Business and Management Review, International Journal of Education and Practice,

International Journal of Education and Research, International Journal of Humanities and Social Science, International Journal of Mathematical Research, Journal of Education and Practice, Journal of Finance and Accounting, Uongozi Journal of Management and Development Dynamics, and Research on Humanities and Social Sciences.

## 5. Results and Discussion

Results and discussion section was guided by one research question namely: **What is the rate of collaboration in research and publication among educators in Tanzanian institutions of higher learning in term of:**

### 5.1. Number of Authors per Research Article:

As Table 2 indicates, 63 (53.39%) of 118 sampled research articles were written by single authors, meaning without institutional, inter-institutional or international collaboration. Thirty-three (27.97%) were written by two authors while 15 (12.71%) were written by three authors and only 7 (5.93%) were written by more than three authors. This implies that only 55 articles were written by more than one person and therefore, majority of sampled research articles were authored without collaboration, thus reducing research quality. This is supported by Crawford, Minde, Colverson, Freed and Haggblade (2011) who have it that collaboration in research improves research quality by bringing together researchers from different universities and private sectors, whose complementary areas of expertise can bring about better results due to combined effort rather than working in an individualistic approach.

Table 2:

Number of authors per research article

No. of Authors	Frequency	Percentage	Cum. Percentage
1	63	53.39	53.39
2	33	27.97	81.36
3	15	12.71	94.07
4+	7	5.93	100.00
Total	118	100	

### 5. 2. Inter-Ranking Collaboration:

Having seen the collaboration trend, researchers were interested in looking into the rate of collaboration between experienced educators and less experienced ones. Based on the data in Table 2, which implies that 46.61% of sampled articles were published collaboratively, collaborating authors did not indicate their academic rankings such as professors, associate professors, senior lecturers, lecturers, assistant lecturers and tutorial assistants. Instead, they simply indicated their institutional affiliation and academic departments where they belong. Only one research article was indicated to have been co-authored by a lecturer and an assistant lecturer. The essence of inter-ranking collaboration is shown by Chancellor's Doctoral Initiative Program (Retrieved November 17, 2014) in that unless experienced and/ or senior faculty members collaborate with inexperienced and/ or junior faculty members to write and publish, research culture will remain dormant.

### 5. 3. Inter-Institutional Collaboration

As Ravid and Handler (2001) pointed out, collaboration relationship may be between institutions or between individuals from different universities. As Table 3 indicates, 52.73% of articles written by more than one author involved inter institutional collaboration while 47.27% involved collaboration within the institutions. This implies that university educators

collaborate within and outside their respective university to publish research articles. Particularly, universities whose educators collaborated inter-institutionally include University of Dar Es Salaam, Moshi University College of Co-operative and Business Studies, College of Business Education, the Open University of Tanzania, Sokoine University of Agriculture, Institute of Financial Management, Mzumbe University, University of Dodoma, Institute of Rural Development Planning, Kampala International University, Dar es Salaam and MwalimuNyerere Memorial Academy.

Table 3:

## Inter-Institutional Collaboration

STATUS	Frequency	Percentage	Cum. Percentage
YES	29	52.73	52.73
NO	26	47.27	100.00
TOTAL	55	100.00	

#### 5. 4. International Collaboration

As seen in Table 4, only 20% of co-authored research articles involved international collaboration while majority (80%) was limited to domestic co-authorship. This implies that the rate of domestic collaboration is higher than that of international collaboration. Universities whose educators involved in international collaboration include University of Arusha, Eastern and Southern African Management Institute (ESAMI), Sokoine University of Agriculture, Moshi University College of Cooperatives and Business Studies, National Fish Quality Control Laboratory (Research institute), and their collaborating counterparts include University of Eastern Africa, Baraton (Kenya), Maastricht School of Management (Netherlands), University of Namibia (Namibia), University of Zambia (Zambia), Dalian University of Technology (China), University of Nairobi (Kenya) and Makerere University (Uganda). International collaboration, if properly used, may help to solve existing problems in different parts of the world collaboratively rather than individually.

Table 4: International Collaboration

STATUS	Frequency	Percentage	Cum. Percentage
YES	11	20.00	20.00
NO	44	80.00	100.00
TOTAL	55		

#### 6. Summary, Conclusions and Recommendations

In summary we can conclude that majority of sampled research articles were authored without collaboration, something which reduces research quality and combined effort to solve contemporary issues. Collaborating authors did not indicate their academic rankings and expertise, something which is very important for readers to know the background of authors. Similar study is therefore recommended with another approach that would find out inter-ranking collaboration among university lecturers within and outside the country. It is also worth noting that majority of collaborative authorship involved inter institutional collaboration. This suggests that university educators need to be encouraged to continue national and international collaboration in order to increase university efficacy in terms of research and publications. Finally, the rate of domestic collaboration was higher than that of international collaboration. University lecturers seem to be collaborating with educators from other countries such as Netherlands, Namibia, Zambia, Kenya and Uganda. The existing

collaboration trend, therefore, needs to be increased by capacity building through educating university lecturers on the importance of collaboration.

## **7. References**

- Aydinoglu, A. U. (2013). Toward a new understanding of virtual research collaborations: Complex adaptive systems framework. *SAGE Open*, Oct-Dec, 2013, 1-12. Retrieved Dec 8, 2014 from /content/3/4/2158244013507269.
- Bangi and Sahay (2014). Efficiency assessment of the Tanzanian universities. *Journal of Education and Practice*, 5 (14), 130-143.
- Chancellor's Doctoral Initiative Program. California State University. Retrieved November 17, 2014 from <http://teachingcommons.cdl.edu/cdip/facultyresearch/Co-authorship>. Html.
- Crawford, E; Minde, I; Colverson, K; Freed, R and Haggblade, S (2011). *Assessment of needs for training, collaborative research, and institutional capacity building for agricultural development and food security in Tanzania*. iAGRI Report Series, No. 1 The Ohio State University Consortium.
- Davenport, S., Grimes, C. & Davies, D. (2007). Research collaboration and behavioral Additivity: A New Zealand case study. *Technology analysis and Strategic Management*, 10(1), 55-67. Retrieved Dec, 8, 2014 from <http://www.tandfonline.com/doi/pdf/10.1080/09537329808524304>.
- International research Collaboration* (2009). Retrieved Dec 8, 2014 from <http://www.aucc.ca/wp-content/uploads/2011/05/International-Research-Collaboration.pdf>.
- Inter University Council for East Africa Newsletter Vol. 40, March, 2010, pp. 14 and 15.
- Inter University Council for East Africa Newsletter Vol. 43, September 2012, p. 7.
- Karell, L. K (2002). *Writing together, writing apart: collaboration in western American literature*(online version). Lincoln, NE: University of Nebraska Press. Retrieved Dec 5, 2014 from [http:// www.questia.com](http://www.questia.com)
- Katharaki, M and Katharaki, G. (2010). A comparative assessment of Greek universities' efficiency Using quantitative analysis. *International Journal of Educational Research* (49) 115-128. Retrieved Dec 5, 2014 from [http:// www.elsevier.com](http://www.elsevier.com)
- Kipasha, E and Msigwa, R (2013). Efficiency of higher learning institutions: evidences from public universities in Tanzania. *Journal of Education and Practice*, 4 (7). 64-72.
- Koul, L. (2001). *Methodology of educational research* (3<sup>rd</sup>ed.). New Delhi: Vikas Publishing House PVT LTD.

- Lee, Y. S. (2000). The sustainability of university-industry research collaboration: An empirical assessment. *Journal of Technology Transfers*, 25, 111-123. Retrieved Dec 8, 2014 from <http://asq.sagepub.com/content/45/3/425.full.pdf+html>
- McMillan, J. H & Schumacher, S. (2006). *Research Methods in Education* (6<sup>th</sup>ed.). Boston: Pearson.
- Mugenda, O. M. & Mugenda, A. G. (2003). *Research methods: Quantitative and qualitative Approaches*. Nairobi: African Centre for Technology Studies.
- Ravid, R and Handler, M (2001). *The many Faces of School-University Collaboration: Characteristics of Successful Partnership* (online version). Englewood. Teacher Ideas Press. Retrieved Dec 5, 2014 from <http://www.questia.com>.
- Rodrígueza, Z. C., Vargas-Quesadab, B., Hassan-Monterob, Y., González-Molinab, A. & Moya-Anegóna, F. (2010). New approach to the visualization of international scientific collaboration. *Information Visualization*, 9 (4), 277–287. Retrieved Dec 8, 2014 from [www.palgravejournals.com/ivs/](http://www.palgravejournals.com/ivs/)
- Richards, M; Elliott, A; Woloshyn, V and Mitchel, C (2001). *Collaboration Uncovered: The Forgotten, the Assumed, and the Unexamined in Collaborative Education* (online Version). Westport, CT: Bergin and Garvey. Retrieved December 8, 2014 from [www.questia.com](http://www.questia.com).
- VicRes Newsletter Vol. 7, Issue 1, April 2010, p. 7. Lake Victoria Research Initiative.