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## Authorship and Collaborative Research among scholars in Open and Distance Learning Institutions in Africa

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**Abstract:** This paper is based on a study that examined authorship and collaborative research among scholars in Open and Distance Learning (ODL) institutions with a focus on prospects for Africa. The study involved intensive documentary desk review of conference book of abstracts and conference proceedings to examine authorship and collaborative research. The study reviewed a total of 10 conference books of abstracts and proceedings organized or hosted by universities including ODL institutions in Africa. Descriptive statistics were used to summarise some thematic areas of interest. It is revealed in this paper that authorship in terms of co-authorship is high in some conferences but low in others in relation to collaborative research. Furthermore, authorship between two scholars was higher compared to three or more authors in collaborative research. This implies that co-authorship is trending in relation to collaborative research thus raising collaboration prospects for Africa. It is therefore recommended that ODL scholars should be encouraged to do more co-author publications from collaborative research in order to promote teamwork and comparative studies in knowledge production for socio-economic development relevant for Africa and beyond.

**Keywords:** Authorship, Collaborative Research, ODL, Africa

### Introduction

Collaboration is crucial in the development of higher education including Open and Distance Learning (ODL) institutions. Collaboration research is growing due to the shift from industrial to a knowledge society characterized by increased triadic cooperative relationships involving academia, industry and government (Etzkowitz & Leydesorff, 1995, 2000). Iglic et al. (2017) noted that knowledge production in the twentieth century is based on a steady rise in the scale and importance of scientific collaboration. Bozeman and Boardman (2014) pointed out that the rise in collaboration is also in various social, economic, technological, and cognitive changes.

Knowledge production via research is still a challenge in Africa. There are a number of ODL institutions in Africa namely The Open University of Tanzania and Zimbabwe Open University (SADC, 2009; African Council for Distance Education, 2019). Past scholars state that knowledge production is low in African Universities and that one of the ways to solve this problem is to ensure that there are sufficient numbers of PhD graduates to conduct research (Cloete & Bunting, 2013). In terms of research, Tarkang, Kweku and Zotor (2017) mentioned that a research publication is the highest level of dissemination of research findings and this carries with it social and ethical responsibilities on the

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part of the author(s). On the other hand, authorship of a scholarly journal article claims recognition for contribution to an original piece of research (Taylor and Francis Group, 2017).

Furthermore, authorship credits are considered important currency of academic, vital for career progression, funding and success in research assessment (Taylor and Francis Group, 2017). Uijtdehaage, Mavis and Durning (2018) added that authorship is the finest vehicle by which original work is disseminated, scholarly credit is established, scientific reputation is recognized, and academic promotion is paved. However, there are limited studies on authorship and collaborative research in ODL institutions. In contributing to literature, this study is motivated to analyze authorship and collaborative among scholars in ODL institutions with a focus on prospects for Africa.

## Literature

### **Authorship**

An author is defined as any individual who makes a substantial contribution to work product (Grifo, Russo and Otto, 2016). Furthermore, authorship refers to the listing of contributors to the work product (Gifro et al., 2016). Teixeira da Silva and Dobranszki (2015) stated that there are no widely accepted criteria for what constitutes authorship. According to International Committee of Medical Journal Editors (ICMJE), authorship is defined as conferring credit and has important academic, social and financial implications (ICMJE, 2019). The Cambridge Dictionary defines authorship as the state or fact of being the person who wrote a particular book or article (Cambridge University Press, 2019). This study adopts the definition of authorship by Gifro et al. (2016).

### **Collaborative Research**

Collaborative research is defined as researchers working together to achieve the common goal of producing new scientific knowledge (Kartz & Martin, 1997; Anaquot, 2008). For example, in 2018, a research collaboration study by Schultz, Comer, Cooper, Mkwizu, Bhardwaj et al. (2018) involved 22 Professors and 3 PhD Students from universities in India, Tanzania and USA whose common goal was to produce new scientific knowledge on using movies to improve learning. Morrison (2017) defined collaboration in research as a scientific activity that takes place between two or more research groups. This study adopts the definition of collaborative research by Kartz and Martin (1997).

### **Theoretical framework**

Borgman and Furner (2002) highlighted that social networks positively help researchers to create or share knowledge. The view from Borgman and Furner (2002) motivated this study to be guided by the social network theory to examine authorship and collaborative research among scholars in ODL institutions with a focus on prospects for Africa. Jacob Moreno in 1930s developed the social network theory (Knox, Savage and Harvey, 2006). The assumption of social network theory lies on the conceptualization of nodes, actors in a network, ties and relations existing between those actors (Gilde, 2014).

Gilde (2014) further noted that the social network theory is grounded in three principles which are; the behaviour of nodes is influenced by behaviour of other nodes in the network meaning that nodes are mutually dependent; the ties between nodes form the basis for the exchange of both goods and ideas implying that ties channel the transmission of information through the network; ties have the ability to create structures among the actors in the network that can influence their behaviour. In addition, social network theoretical concepts can be researched in the context of individuals, organizations and states (Gilde, 2014).

Application of social network theory can be noted in previous studies such as Daly (2010), Schultz-Jones (2009) and Valente and Pitts (2017). Schultz-Jones (2009) applied social network theory to

examine information behaviour and found that there is growth by information science and other disciplines in research that applies the social network theory. Social network theory is also been used in education by Daly (2010) who examined social network theory and educational change with a focus on schools. This study uses the social network theory to guide the examination of authorship and collaborative research among scholars in ODL institutions focusing on prospects for Africa since researchers as individuals in higher education create and share knowledge.

### ***Authorship and Collaborative Research***

Studies on authorship have explored the connection of authorship and best practices such as Grifo et al. (2016). Grifo and others mentioned that the most important best practice is to engage in discussion of responsibilities and authors among the participants prior to the project and periodically as the work is in progress. Other scholars that have contributed to the debate on authorship in terms of issues such as definition and responsibility include Kornhaber, Mclean, and Baber (2015), Stretton (2014), Vinther and Rosenberg (2012), and ICMJE (2019). For instance, ICMJE (2019) noted that authorship also implies responsibility and accountability for published work.

Other studies have examined authorship in reference to misconduct, criteria, violation, disputes, ordering, credit and integrity (Hanson, 1988; Birnholtz, 2008; Wislar et al., 2011; Sharma & Kawachi, 2012; Ghajarzadeh, Mohammadifar, & Safari, 2013; Yanjiu, 2016; Smith & Master, 2017; Faulkes, 2018; Weber, 2018; Patience, Galli, Patience & Boffito, 2019; Holcombe, 2019; Ahmed & Alamri, 2019). Wislar et al. (2011) commented that authorship violation is a global phenomenon. On the other hand, collaborative research is been documented by O'Sullivan, Stoddard and Kalishman (2010). O'Sullivan et al. (2010) studied collaborative research in medical education with particular interest on theory and practice. Using a discussion approach, the study concluded that collaborative research in medical education should be driven by problem, new knowledge gained and interpersonal interactions.

Holcombe (2019) advocated the use of a contributorship model to improve the ability of universities and funders to identify effective individual researches. Similarly, Ahmed and Almari (2019) studied promoting authorship integrity and therefore, recommended for journal to adopt a contributorship policy that is universal. However, Zauner et al. (2018) noted that the move towards contributorship should be accompanied with be adequate education and enforcement of best practices.

In India, Pradhan, Panda and Chandrakar (2011), investigated on authorship pattern and degree of collaboration and found that in chemistry literature, multi-authorship articles are higher than single authorship meaning researchers in chemistry are keen towards team research and group research rather than solo research. Luo and Matthews (2013) added that one of the drivers of collaboration is a way to produce more and more highly cited publications. However, Cronin, Shaw and Berre (2003) did a research on co-authorship and sub-authorship in a journal and found that 74% were single authors. Equally, Lee, Jones and Downie (2009) looked at papers in proceedings and found that co-authorship has increased. On the other hand, there is less research in Africa that investigates authorship and co-authorship in proceedings as well as book of abstracts from conferences.

Additional literature on collaborative research is on benefits related to collaborative research. For example, Anaquot (2008) mentioned that collaborative research increases the probability of knowledge, skills and techniques that can be available within collaborators, but also the time spent learning information or skills is minimized. In addition, transfer of knowledge and skills occurs within collaborative research relationships (Anaquot, 2008). Another study by Sprunger (2017) stated that collaborative working relationships have benefits such as formal opportunities, funding opportunities, and opportunity to develop as a scholar. However, there are limited studies on authorship in Africa and in particular, authorship connecting to collaborative research. Hence, this study is motivated to

examine authorship and collaborative research among scholars in ODL institutions with a focus on prospects for Africa.

### Methodology

The methodological approach is documentary research design. The documentary research approach has been used to study education by past scholars such as Komba (2016). In this study, intensive documentary desk review of conference book of abstracts and conference proceedings was used to examine authorship and collaborative research. The study reviewed a total of 10 conference books of abstracts and proceedings organized or hosted by universities including ODL institutions in Africa. The books of abstracts and conference proceedings were from conferences by universities held in different countries in Africa namely Ghana, Kenya and Tanzania. The selection was based on accessibility of information from the conferences which the authors participated.

Descriptive statistics were used to summarize some thematic areas of interest. Furthermore, this paper used descriptive statistics to avail the frequencies and percentages of authorship in the selected conferences. The thematic areas of interest were “solo authors” and “co-authors”. Therefore, solo authors and co-authors were the major themes used to select the authorship category for the research papers of the examined conferences.

### Findings and Discussions

The findings in Table 1 for Conference A that took place in Arusha, Tanzania, which had 33 research papers show that there are solo-authors (51.5%) and co-authors (two, three, four) being 48.5%. The results suggest that there are more solo-authors than co-authors and therefore, there are less collaborative research papers in this conference.

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**Table 1. Authorship and Collaborative Research - Conference A**

Platform	Authorship	Frequency	Percentage	
Conference Proceedings (OUT Tourism Conference 2019), Arusha, Tanzania.	Solo-Authors	17	51.5	
	Co-Authors	Two	11	33.33
		Three	4	12.2
		Four	1	3.0

The findings in Table 2 for Conference B that was held in Dar es Salaam, Tanzania, which had 101 research papers show that there are solo-authors (39.6%) and co-authors (two, three, four, five) being 60.4%. These findings suggest that there are more co-authors than solo-authors and hence there are more collaborative research papers in this conference.

**Table 2. Authorship and Collaborative Research - Conference B**

Platform	Authorship	Frequency	Percentage	
Book of Abstracts (ATLAS Africa Conference 2015), Dar es Salaam, Tanzania.	Solo-Authors	40	39.6	
	Co-Authors	Two	29	28.7
		Three	21	20.8
		Four	6	5.9
		Five	5	5.0

The findings in Table 3 for Conference C that took place in Mombasa, Kenya, which had 105 research papers show that there are solo-authors (41.9%) and co-authors (two, three, four) being 58.1%. Suggesting that there are more co-authors than solo-authors and therefore, there are more collaborative research papers in this conference. Furthermore, some co-authored abstracts involved comparison study of two countries hence involving co-authors from different countries.

**Table 3. Authorship and Collaborative Research - Conference C**

Platform	Authorship	Frequency	Percentage	
Book of Abstracts (IBRIC Conference 2019), Mombasa, Kenya.	Solo-Authors	44	41.9	
	Co-Authors	Two	40	38.1
		Three	20	19.0
		Four	1	1.0

The findings in Table 4 for Conference D that took place in Accra, Ghana, which had 48 research papers show that there are solo-authors (56.3%) and co-authors (two, three) being 43.7%. Suggesting that there are more solo-authors than co-authors hence there are less collaborative research papers in this conference.

**Table 4. Authorship and Collaborative Research - Conference D**

Platform	Authorship	Frequency	Percentage	
Book of Abstracts (ICEBUT Conference 2019), Accra, Ghana.	Solo-Authors	27	56.3	
	Co-Authors	Two	14	29.2
		Three	7	14.0

In Table 5 for Conference E that took place in Dar es Salaam, Tanzania, which had 32 research papers show that there are solo-authors (46.9%) and co-authors (two, three) being 53.1%. Suggesting that there are more co-authors than solo-authors and therefore, there were more collaborative research papers in this conference.

**Table 5. Authorship and Collaborative Research - Conference E**

Platform	Authorship	Frequency	Percentage	
Conference Proceedings (OUT Tourism Conference 2019), Dar es Salaam, Tanzania.	Solo-Authors	15	46.9	
	Co-Authors	Two	13	40.6
		Three	4	12.5

In Table 6 for Conference F that took place in Dar es Salaam, Tanzania, which had 46 research papers show that there are solo-authors (100%) and no co-authors (two, three, four). The findings

indicate that there are mainly solo-authors and no co-authors and therefore, there were no collaborative research papers in this conference.

**Table 6. Authorship and Collaborative Research - Conference F**

Platform	Authorship	Frequency	Percentage
Book of Abstracts (1 <sup>st</sup> Doctoral Conference 2019), Dar es Salaam, Tanzania.	Solo-Authors	46	100.0
	Co-Authors Two	0	00.0
	Three	0	00.0

In Table 7 for Conference G that took place in Dar es Salaam, Tanzania, which had 96 research papers show that there are solo-authors (67.7%) and co-authors (two, three, four) being 32.3%. The results are suggesting that there are more solo-authors than co-authors and therefore, there are less collaborative research papers in this conference.

**Table 7. Authorship and Collaborative Research - Conference G**

Platform	Authorship	Frequency	Percentage
Book of Abstracts (DEASA and DEATA Joint Conference 2019), Dar es Salaam, Tanzania.	Solo-Authors	65	67.7
	Co-Authors Two	21	21.9
	Three	8	8.3
	Four	2	2.1

In Table 8 for Conference H that took place in Dar es Salaam, Tanzania, which had 42 research papers show that there are solo-authors (38.1%) and co-authors (two, three, four, five) being 61.9%. Suggesting that there are more co-authors than solo-authors and therefore, there were more collaborative research papers in this conference.

**Table 8. Authorship and Collaborative Research - Conference H**

Platform	Authorship	Frequency	Percentage
Book of Abstracts (ICAESB Conference 2017), Dar es Salaam, Tanzania.	Solo-Authors	16	38.1
	Co-Authors Two	14	33.3
	Three	5	11.9
	Four	5	11.9
	Five	2	4.8

In Table 9 for Conference I that took place in Dar es Salaam, Tanzania, which had 45 research papers show that there are solo-authors (66.7%) and co-authors (two, three) being 33.3%. Suggesting that there are more solo-authors than co-authors and therefore, there are less collaborative research papers in this conference.

**Table 9. Authorship and Collaborative Research - Conference I**

Platform	Authorship	Frequency	Percentage
Book of Abstracts (DEATA Conference 2018), Dar es Salaam, Tanzania.	Solo-Authors	30	66.7
	Co-Authors Two	13	28.9
	Three	1	2.2
	Four	1	2.2

In Table 10 for Conference J that took place in Dar es Salaam, Tanzania, which had 50 research papers show that there are solo-authors (24%) and co-authors (two, three, four, five) being 76%. Suggesting that there are more co-authors than solo-authors and therefore, there were more collaborative research papers in this conference.

**Table 10. Authorship and Collaborative Research - Conference J**

Platform	Authorship	Frequency	Percentage
Book of Abstracts (ICAESB Conference 2019), Dar es Salaam, Tanzania.	Solo-Authors	12	24.0
	Co-Authors Two	19	38.0
	Three	17	34.0
	Four	1	2.0
	Five	1	2.0

Therefore, the study findings revealed that authorship in terms of co-authorship is high in some conferences but low in others in relation to collaborative research. Conferences B, C, E, H and J which were either organized or hosted by African universities including ODL institutions had higher ratings for co-authorship compared to solo-authorship and these findings differ from Cronin et al. (2003) and this is due to researchers creating and sharing knowledge as collaborators not solo researchers.

This paper also shows that some of the co-authored papers involve study comparison between countries with co-authors from the compared countries. In addition, the findings also show that authorship between two scholars was higher compared to three or more authors in collaborative research which implies that co-authorship is trending in relation to collaborative research thus raising collaboration prospects for African Universities including ODL institutions.

On the other hand, Conferences A, D, F, G and I show that solo-authors are more than co-authors in the shared research papers via conferences. The findings differ from similar previous studies by Lee et al. (2009) and Pradhan et al. (2011) and the variation may be due to researchers' preference to share knowledge as solo research papers.

From a social network theory perspective, the study findings show that the individuals who are researchers network with conferences as platforms to share their research papers as solo-authors and co-authors. Subsequently, the co-authors network by sharing research which is through collaborators thus affording the conferences to have collaborative research papers.

### Conclusion and Suggestions

This study examined authorship and collaborative research with focus on prospects for Africa. The findings of this study revealed that authorship in terms of co-authorship is high in some conferences but low in others in relation to collaborative research. Furthermore, authorship between two scholars was higher compared to three or more authors in collaborative research. This implies that co-authorship is trending in relation to collaborative research thus raising collaboration prospects for Africa.

The results of this study further imply that from a social networking view, the individuals as co-authors network by sharing research papers done through collaborative research by two or more researchers.

The outcome of this paper can assist ODL institutions as part of African Universities to encourage co-authorship and collaborative research in order to promote teamwork and comparative studies in knowledge production for socio-economic development in African countries.

Future research can explore a mixed method approach of quantitative and qualitative to further understand the phenomenon of authorship and collaborative research in Africa.

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