

Authorship Collaboration Pattern Among Academic Librarians in Federal Universities in South-West, Nigeria

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Abstract

This study examined authorship collaboration pattern among academic librarians in federal universities in South-West Nigeria. Survey research design was adopted for the study with a population of two hundred and thirty-three respondents. One hundred and fifty (150) academic librarians were randomly selected with 25 respondents from each of the six federal universities in South-West, Nigeria. Out of the 150 copies of the questionnaire distributed, one hundred and nine (109) copies were found usable for the study. A response rate of 90.8% was recorded. Five research questions were raised. Data collected were analysed using frequency counts and percentages. Some of the major findings revealed that academic librarians work together to promote growth and cordial relationship among themselves and also contribute to the conception of data, project designing, collecting and analysing data, among others. It was also discovered that knowledge sharing skills and techniques, transfer of knowledge, cross fertilisation of ideas are the benefits of authorship collaboration. Inadequate funds, lack of effective communication, different opinions among authors were pointed out as some of the challenges confronting authorship collaboration. From the findings, it was concluded that authorship collaboration promotes growth and cordial relationships among academic librarians. Policy formulation and implementation was therefore recommended to guide relationships among authors among others.

Keywords: *Authorship, Collaboration, Academic librarians, Federal universities in South-West, Nigeria*

Introduction

The concept of authorship has evolved over the course of the 20th century with a steady increase in collaboration. This trend was anticipated by Price (1963) who stated that by 1980 the single author paper will be extinct and scholarly publications will move steadily towards infinity of authors per paper. The presence of multiple creators for a given product complicates issues of ownership, ethics, and measurement of contribution. As Merton (1998) noted, the growth of team work not only makes problematic the recognition of individual contributions by others, it also makes problematic the evaluation of contributions by them. Many scholars have advocated for stricter editorial policies to combat author inflation, and some editorial bodies have issued statements defining authorship. The editors of the New England Journal of Literature, for example, defined authorship as substantial contribution in three areas of conception and design or analysis and interpretation of data; drafting of the manuscript or revising it critically for intellectual content, and final approval of the version of the manuscript to be published.

Definitions of authorship are further complicated by the often synonymous interchange of the term collaboration with co-authorship. Some of the broader definitions of collaboration include a process of function interdependence between scholars in their attempt to co-ordinate skills, tools, and rewards. Patel (1990) opined that authorship is the interaction taking place

within a social context among two or more scientists that facilitates the sharing of meaning and completion of tasks with respect to a mutually shared super ordinate goal.

Moreover, collaboration can be broadly defined as a process in which two or more parties, individuals or institutions work together intellectually to achieve a common research goal. Each party might have different modus operandi, but usually all parties share the same values or ideologies. Knowledge is usually shared through open discussion and there is generally a “leader” of the collaboration, although this is not a sine qua non to success. It has been realised according to Newman (2004) that co-authorship of articles in learned journals provides a window pattern of collaboration within a given community. Collaboration of work can be accessed through a broad view such as the number of papers authors write, how many people they write with and how has this affected their productivity. It was stated further that it is possible to extract from authorship data a measure of the strength of the collaboration between pairs of individuals. This, he reported, can be done simply by a count of the frequency with which two people have co-authored over a given interval

When academic librarians and other researchers work together in teams, they can create fundamental advances in knowledge. If two or more researchers collaborate, there is a greater probability that between them, they will process the necessary range of techniques as they all come together to share their knowledge and skills to carryout research work. Therefore, this study aimed at determining whether academic librarians actually collaborate, and if they do, what is the nature, reasons and challenges involved in such collaboration?

Research questions

Based on the background information, the following research questions were raised.

1. What do academic librarians in federal universities in South-West, Nigeria aim to achieve when working together?
2. What are the expected contributions of academic librarians in federal universities in South-West, Nigeria in the research work?
3. What are the benefits of collaboration by academic librarians in federal universities in South-West, Nigeria?
4. Where will the funding for collaboration in research work by academic librarians in federal universities in South-West, Nigeria come from?
5. What are the challenges confronting authorship collaboration by academic librarians in federal universities in South-West, Nigeria?

Literature Review

Collaborative authorship is a combination of two constructs ‘collaboration and authorship’. Laudel (2002) opined that research collaboration as a system of research activities by several factors related in a functional and coordinated way to attain a research goal corresponding with these actors’ research goals or interests. Research collaboration thus is working together of researchers to achieve the common goal of producing new scientific knowledge which sometimes end up in co-authored publications. Authorship on the other hand means playing a fundamental role in the creation of the product to be published.

The inherent complexities of science and technology in recent years have caused most countries, universities, and research institutions to face difficulties in finding the right human resources and enough budgets for their research projects. One of the results of these complexities is that individual researches are being replaced by collective research attempts in

many disciplines such that scientific collaboration has become one of the most important social mechanisms in recent research projects. The result of collaboration is that in order to complete their research, many scientists collaborate with their peers in other organisations, disciplines, and even other countries. One of the most tangible forms of this collaboration is co-authorship, which can be seen in articles published in any technical and scientific journal nowadays.

Researchers who studied this development often point to the benefits of multi-authored publications to help explain the rise in co-authorship. For example, Isenberg, Jalongo and Bromley Isenberg et al (1997) found that among authors published in education-related journals, the most prominent reasons for collaboration included promoting growth collegiality among colleagues, improved quality of research and written result, increased efficiency of work, and capitalisation on co-authors strengths for complex research. Gibelman and Gelman (2000) also noted that social work researchers who collaborated recognised several benefits from multi-authored publications not unlike those listed by Isenberg et al (1997). In a study of finance faculty and chair's perceptions of co-authored publications, Tompkins, Nathan, Hermanson and Hermanson (1997) also found similar benefits, such as higher quality of research, capitalisation on complementary strength of co-authors, increased productivity and enhanced collegiality within departments. Additionally, Hart (2000) found that academic librarian tended to rate improved quality of final product, expertise of co-authors, division of labour among co-authors and enhanced productivity in terms of publications.as important reasons co-authorship.

These studies from diverse fields show that there is much commonality in perceived benefits of multi-authored publications. Academic authorship is used as a basis for reputation, employment, and even income (Kennedy and Donald, 2003). Authors are writers, but where collaboration is the norm writing is not always seen as the only criterion for being included as an author. Rennie and Yank (1997) also noted that collecting or analysing data, contributing to design or simply being part of a project can also count as authorship. However, who should be included on the by-line can be controversial. For this reason, most journals and scientific communities have established ethical guidelines that regulate co-authorship.

Fister and Marusic (2007) highlighted major guidelines on which authorship should be based to include; substantial contribution to conception and design or acquisition of data, or analysis and interpretation of data, drafting the article or revising it critically for important intellectual content; final approval of the version to be published and agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. In addition, Flanagan and Deangelis (2011) also noted that being accountable for the parts of the work, an author should be able to identify which co-authors are responsible for specific parts of the work.

All those designated as authors should meet all four criteria for authorship and all who meet the four criteria should be identified as authors (Fister and Marusic, 2007). These authorship criteria are intended to reserve the status of authorship for those who deserve credit and can take responsibility for the work. The criteria are not intended for use as a means to disqualify colleagues from authorship who otherwise meet authorship criteria. Therefore, all individuals who meet the first criterion should have the opportunity to participate in the review, drafting, and final approval of the manuscript. Bahr (2000). The individuals who conduct the work are responsible for identifying who meets these criteria and ideally should do so when planning the work, making modifications as appropriate as the work progresses (Balog, 2003).

Subramanyan (2009), noted that corresponding author takes primary responsibility for communication with the journal during the manuscript submission, peer view, and publication process and typically ensures that all the journals administrative requirements, such as providing details of authorship, others committee, approval, clinical trial registration documentation and gathering conflict of interest forms and statements, are properly completed, although those duties may be delegated to one or more co-authors. According to Lukkonan and Persson (1992), when a large multi-author group has conducted the work, the group ideally should decide who will be an author before the work is started and confirm who is an author before submitting the manuscript for publication. Consequently, all members of the group named as authors should meet all four criteria for authorship, including approval of the final manuscript, and should be able to take responsibility for the work and have full confidence in the accuracy and integrity of the work of other group authors. They will also be expected as individuals to complete conflict of interest disclosure forms (Heffner 2006).

What Motivates Collaboration?

There are several reasons why the level of research collaboration has been growing over the last 20 to 30 years. One is the escalating costs of conducting fundamental study at the research frontier. In many fields, scientific instrumentation costs have jumped appreciably with the introduction of successive generations of technology (Smith, 2000). As a consequence, it has often become impossible for funding agencies to provide the necessary research facilities to all the research groups working in the area. Resources have had to be pooled, either at a regional, national or at an international level such that researchers involved are forced to collaborate more closely.

A second factor encouraging greater collaboration according to Stokes and Hartley (2005) has been the substantial fall in real terms in the cost of travel and of communication, accompanied by growing availability and easy access. Air travel is many times cheaper in relative terms than in the 1980's when journey by sea and /or rail was often the only option. Subramanyam (2009), also noted that the falling cost and growing ease of communication, especially, following the introduction of fax machines and electronic mail has made collaboration between researchers, even when separated by great distances, far easier. Furthermore, the above developments have often greatly reduced the time needed to travel or to communicate or at least to receive a response. Thirdly, as sociologists of science and other fields have shown, science is a social institution where advances depend crucially on interaction with other scientists (Turney, 2002). For some fields, this may entail the creation of formal collaboration, organised and sometimes quite large teams of researchers. For others, informal links may be all that are required, perhaps in the form of "invisible college" or the "network" which have become so popular with certain funding agencies during recent years.

According to Narin, Stevens and Whitlow (2006), there are various political factors encouraging greater levels of collaboration among researchers. Prominent among these has been the growing integration of Western Europe in the years up to 1992 and the increasing role played by European Commission for supporting research. Furthermore, just as collaboration between European scientists after the second world war, collaboration was seen as one way of building stronger links between nations, so the recent political changes in Eastern Europe have resulted in calls for Western scientists to collaborate with their colleagues in the East to help bring about stronger political and cultural ties (Schubert and Braun 2000).

Benefits and Costs of Collaboration

Modern research is increasingly complex and demands an ever widening range of skills (Heffner, 2006) as very often no single individual will possess all the knowledge, skills and techniques required (Senker, 2004). In principle, he/she might be able to learn or acquire all the techniques needed to solve a particular problem, but this can be very time consuming. Therefore, if two or more researchers collaborate, there is a greater probability that between them they will possess the necessary range of techniques (Balog, 2003). According to Clarke (2009) the first type of benefit is therefore the sharing of knowledge skills and techniques. In collaborations, there may be a fairly formal division of labour. For example, one person may be good at constructing, operating and maintaining instruments and another at analysing the data produced. Collaboration thus covers a more effective use of their talents.

A second and closely related type of benefit is the transfer of knowledge or skills. As noted earlier, it can be time consuming for an individual to update their knowledge or to retain. Furthermore, not all the details concerning new advances are necessarily documented since much of the knowledge may be tacit and remains so until researchers have had the time to deliberate and set out their findings in a publication (Senker, 2004), hence frequently, considerable time elapses before the knowledge appears in written form. Collaboration is one way of transferring new knowledge, especially tacit knowledge (Collins, 2007). Furthermore, research requires not only scientific and technical expertise but also the social and management skills needed to work as part of a team as highlighted by Pravdic and Vukovic (2006). These cannot be readily taught in the classroom but are best learned on the job by engaging graduate students or young post-doctoral researchers in collaborative activities.

Thirdly, collaboration may bring about clash of views, a cross fertilisation of ideas which may in turn generate new insights or perspectives that individuals, working on their own, could not have grasped (Yank and Rennie, 1997). Hence collaboration is greater than the sum of its parts. Such benefits are likely to be largest when the collaboration involves partners from more divergent scientific backgrounds. A fourth type of benefit is that collaboration provides intellectual companionship. Oyenyi and Bozimo, (2004) noted that research can be a lonely occupation, probing the frontiers of knowledge where few, if any investigators have been before. An individual can partly overcome that intellectual isolation through collaborating with others, forming working and perhaps also personal relationship with them.

In addition, collaboration can enhance the potential visibility of work using their network of contacts and once collaborators can diffuse the findings, either formally or through informal discussions (Saonewald, 2007). Together, collaborators are likely to arrive at a more informed decision as to the best journal in which to publish the results. Once published, the paper may be pictured up in library searches by scanning for work produced by any of the collaborating authors, multiplying the chance that it will be located and used by others. On average, it is therefore, likely to be cited more frequently and to have greater impact. The result of all these benefits from collaboration is that research can in principle be carried out more effectively. However, collaboration also entails costs which can take a variety of forms.

Firstly, in financial terms, although collaboration may result in savings for research funding agencies, it nevertheless entails some additional costs. For inter-institutional, inter-sectorial collaborations, travel and subsistence costs are incurred as researches move from one location to another. Equipment and materials may also have to be transported (Hamilton, 1997). Secondly, collaboration brings certain costs in terms of time. Indeed, for many researchers, these may be more important since time, is now in certain respect a more valuable resource

than funding. According to Tompkins et al (1997}, time may have to be spent in preparing a joint proposal or securing joint funds from two or more sponsors and in jointly defining the research problems and planning the approach. Different parts of the research may be carried out at different locations, again introducing time costs. Time must be spent keeping all the collaborators fully informed of progress as well as deciding what to do next. Also, differences of opinion are almost inevitable and time will be needed to resolve these amicably. Winston (2000), also noted that writing up results jointly may also take more time where there are disagreements over the findings and their significance, or over who should be included among co-authors and in what order they should be listed. Besides these direct time costs, there are also such indirect time costs as recovering from the effects of travel (jet lag), working in an unfamiliar environment and developing new working and personal relationships with one's collaborator (Hudson, 1996).

Thirdly, collaboration brings certain costs in terms of increased administration. With more people and perhaps several institutions involved, greater effort is required to manage the research (Lukkonan and Persson, 1992). According to Mattson (2008), if the collaboration is large or spans a considerable distance, it might need more formal management procedures which may create problems of bureaucracy. Even when this is not the case, when difficulties arise, they may nevertheless be blamed on bureaucracy and foster a sense of grievances against other collaborators which needs to be sorted out by the project management. A more formal management structure may also stifle the creativity of the researchers offsetting the benefits of cross fertilisation stated earlier. Leydesdorff, (2008) emphasised that where two or more institutions are collaborating, there is often the problem of reconciling different management cultures, financial systems rules on intellectual property rights and so on. There may also be differences over reward systems, promotion criteria and time scales and even a more general clash of values over what is the most important research to pursue, how to carry it out or over commercial or ethical implications (Balog, 2003). All these potential differences need to be reconciled if serious problems are not to disrupt the collaboration. In short, collaboration in research brings significant costs as well as undoubted benefits.

Factors Contributing to Collaboration

Numerous authors have studied the phenomenon of collaboration. However, while a wide range of factors apparently contributing to collaborative activity have been identified. Few specific reasons have been clearly established to explain how and why it occurs. According to Endersby (2000), collaboration can take various forms ranging from offering general advice and insights to active participation in a specific piece of research. These collaborative contributions can also vary in levels from the very substantial to the almost negligible. Sometimes a researcher may be seen as a 'collaborator' and listed as a co-author simply by virtue of providing material or performing a routine essay (Fine and Kurdek, 1993). In other cases, researchers from different organisations may collaborate by sharing data or ideas through correspondence or discussions at conferences, by visiting each other, or by performing parts of a project separately and then integrating the results (Isenberg and Jalongo, 1997). Subramanyam (2009), have proposed a great many factors to account for the increase in multiple-author papers. These include, changing patterns or levels of funding; the desire of researchers to increase their scientific popularity visibility and recognition; the advancement of scientific disciplines which means that a researcher requires more and more knowledge in order to make significant advances, a demand which often can only be met by pooling one's knowledge with others; the need to gain experience or to train apprentice researchers in the most effective way possible; the increasing desire to obtain cross-fertilisation across disciplines; and the need to work in close physical proximity with others in

order to benefit from their skills and tacit knowledge. Indeed, the list of possible contributing factors is almost endless. Even though some of these factors may occur more frequently than others, collaboration is an intrinsically social process and, as with any form of human interaction, there may be at least as many contributing factors as there are individuals involved (Oyeniya and Bozimo, 2004).

Does collaboration vary with the nature of the research? Smith (2000) was one of the first to observe that theoretical work generally produces papers with fewer co-authors than experimental work. Later evidence has supported this finding and now it is generally accepted that experimentalists tend to collaborate more than theoreticians. Collaboration may also depend on how basic or applied is the research. For example, Hagstrom (2001), has argued that applied research, like experimental research, tends to be more interdisciplinary, and research on a particular problem may therefore require a wider range of skills than any single individual, or even a single institution, is likely to possess.

Research Methodology

Survey research design was used for this study. A method of sociological investigation that uses question based on statistical surveys to collect information about people's opinion, perception and idea was adopted. The population for this study comprised all academic librarians in the six federal universities in South-West Nigeria. These are University of Ibadan, Ibadan, Oyo State, University of Lagos, Akoka, Lagos State. Federal University of Agriculture, Abeokuta, Ogun State, Federal University of Technology Akure, Ondo State, Federal University, Oye-Ekiti, Ekiti State and Obafemi Awolowo University Ile-Ife, Osun State. At the time of the study, there were one hundred and sixty-three academic librarians in the six federal universities in South-West, Nigeria. Simple random sampling technique was used to select 25 respondents from each of the six federal universities in South-West, Nigeria. Therefore, a sample size of 150 was used. Questionnaire was the instrument used for the study. The questionnaire consists of six sections namely sections A to F. Section A comprised questions on demographic information of respondents while sections B to F comprised items aimed at answering the research questions. One hundred and fifty copies of the questionnaire were distributed while 109 copies were found usable for analysis. This represents a response rate of 72.7% which is acceptable for researches in the Humanities. The data obtained were analysed using frequency, percentages, mean and standard deviation.

Interpretation of Data and Results

Five research questions were answered in the study.

Research question 1: What do academic librarians in federal universities in South-West, Nigeria aim to achieve when working together?

Respondents were asked to indicate what they intended to achieve by joint authorship. The result is presented in Table 1.

Table 1: Rationale behind joint authorship of academic librarians in federal universities in South-West, Nigeria

S/N	Items	Agreement score		Disagreement score		Mean	Std Dev.
		No	%	No	%		
1	Division of labour among co-authors	92	84.4	17	15.6	3.90	0.569
2	Improved quality of research and written result	88	80.7	21	19.3	3.87	0.789
3.	Promoting growth and cordial relationship among colleagues	81	74.3	28	25.7	3.76	0.889
4.	Increase efficiency of work	75	68.8	34	31.2	2.91	0.889
5	Enhanced productivity in terms of publication	74	67.9	35	32.1	2.89	0.786
6.	Capitalization on co-authors strength for complex research	54	49.5	55	50.5	2.23	0.991
7.	Expertise of co-authors	27	24.8	82	75.2	1.29	0.778

Result in Table 1 reveals what academic librarians aim to achieve when working together. From the table, it can be seen that division of labour among co-authors 84.4%, improved quality of research and written result 80.7%, promoting growth and cordial relationship among colleagues 74.3%, increase efficiency of work 68.8%, and enhanced productivity in terms of publication 67.9% were some of the reasons why academic librarians work together. In terms of mean ranking, division of labour among co-authors ($x=3.90$), improved quality of research and written result and Promoting growth ($x=3.87$) and cordial relationship among colleagues ($x=3.76$). This implies that what informs collaboration for authorship among academic librarians were division of labour which was anchored on improved quality of research

Research question 2: What are the expected contributions of academic librarians in federal universities in South-West, Nigeria in the research work?

Research question two sought to find out how each participant in joint authorship contributes to the research. As such, respondents were asked to indicate their level of agreement with items relating to this question. The result is presented in Table 2.

Table 2: Expected Contributions of Each Participant in Research Work

S/N	Items	Agreement score		Disagreement score		Mean	Std. Dev
		No	%	No	%		
1.	Conception of data	76	69.7	33	30.3	2.39	0.761
2.	Collecting and analyzing data	67	61.5	42	38.5	2.22	0.761
3.	Project designing	86	78.9	23	21.1	3.23	0.407
4.	Drafting and revising of manuscript	75	68.8	34	31.2	2.29	0.966
5.	Submission and publication of manuscript	73	67.0	36	33.0	2.41	0.814
6.	Giving feedback on a draft manuscript	98	89.9	11	10.1	3.81	0.637
7.	Collective approval of the version to be published	42	38.5	67	61.5	1.86	0.761
8.	Accountable for the part of the work	74	67.9	35	32.1	3.20	0.407
9.	Identification of co-authors responsible for specific part of the work	33	30.3	76	69.7	1.67	0.837

Results in Table 2 shows respondents' view on the expected contributions of each participants during research work. From the table, it is evident from the mean score recorded that giving feedback on a draft manuscript (mean=3.81, Std. Dev=0.637), project designing (mean=3.23, Std. Dev=0.407), conception of data 69.7%, drafting and revising of manuscript 68.8%, accountable for the part of the work 67.9%, submission and publication of manuscript 67.0%, collecting and analyzing data 61.5% are the expected contributions of each academic librarians in research work.

Research question 3: What are the benefits of collaboration by academic librarians in federal universities in South-West, Nigeria?

Table 3: Benefits of collaboration

S/N	Items	Agreement		Disagreement		Mean	Std. Dev
		No	%	No	%		
1.	Knowledge sharing skills and techniques	87	79.8	22	20.2	3.43	0.450
2.	Enhance the potential visibility of work	86	78.9	23	21.1	3.39	0.802
3.	Intellectual companionship	84	67.0	25	23.0	3.22	0.973
4.	Cross fertilization of ideas	83	76.1	26	23.9	2.98	0.819
5.	Formal division of labour	76	69.7	33	30.3	2.88	0.606
6.	Transfer of knowledge	46	42.2	63	57.8	1.87	0.407

Table 3 reveals the benefits of collaboration among academic librarians. The table revealed that sharing of knowledge, skills and techniques 79.8%, enhancing the potential visibility of work 79.8%, cross fertilization of ideas 76.1%, formal division of labour 69.7% and intellectual companionship 67.0% were the benefits of collaboration among academic librarians in federal universities in South-West, Nigeria.

Research question 4: Where will the funding for collaboration in research work by academic librarians in federal universities in South-West, Nigeria come from?

Table 4: Source of fund for the research work

S/N	Items	Agree		Disagree		Mean	St.D
		No	%	No	%		
1.	Department	41	37.6	68	62.4	1.55	0.407
2.	Government	42	38.5	67	61.5	1.09	0.761
3.	Personal funding	65	59.6	44	40.4	3.07	0.814
4.	Faculty	67	61.5	42	38.5	3.07	0.761
5.	Grant	95	87.1	14	12.9	3.72	0.997

It could be noted from Table 4 that the sources of fund for collaborative authorship among LIS professionals were grants (mean=3.72, std.=0.771), faculty (mean=3.09, std=0.698) and personal funding (3.07, std =0.991) respectively. This result shows how academic librarians sourced for funds to carry out research work. For instance, 95(87.1%) of the respondents agreed that grants were the major source of research funds while department had the least agreement score 41, 37.6%. as source of fund to carry out research.

Research question 5: What are the challenges confronting authorship collaboration by academic librarians in federal universities in South-West, Nigeria?

Table 5: Challenges confronting authorship collaboration by academic librarians in federal universities in South-West, Nigeria?

S/N	Items	Agree		Disagree		Mean	St.D
		No	%	No	%		
1.	Inadequate funding	85	78.0	24	22.0	3.63	0.407
2.	Lack of proper communication among others	80	73.4	29	26.6	3.55	0.910
3.	Problem of reconciling different management culture	78	74.5	31	28.5	3.01	0.814
4.	Different opinions among authors	72	66.0	37	34.0	2.91	0.498
5.	Lack of coherence in aims, intentions and joined up thinking between authors	75	68.8	34	31.2	2.59	0.761
6.	Inadequate time to respond to different priorities	40	36.7	69	63.3	1.89	0.761
7.	Inability to understand each of responds professional language and protocols	50	45.8	59	54.2	1.23	1.114

Table 5 shows the problems confronting authorship collaboration among academic librarians. From the table, it can be deduced that inadequate funding 78.0%, problem of reconciling different management culture 74.5%, lack of proper communication among others 73.4%, lack of coherence in aims, intentions and joined up thinking between authors 68.8% and different opinions among co-authors 66.0% are the challenges confronting authorship collaboration.

Discussion of Findings

The purpose of this research work is to know the existing authorship collaboration pattern among academic librarians in federal universities in South-West, Nigeria. Based on the findings, results show that authorship collaboration promotes growth and cordial relationship among colleagues, improve quality of research and written result, increased efficiency of work, capitalisation on co-authors strengths for complex research, division of labour among co-authors and enhance productivity in terms of publication could be the reasons why academic librarians work together. The findings are in line with Hart (2000) who found out that academic librarians work together to improve quality of research, expertise of co-authors, division of labour among co-authors and enhanced productivity in terms of publication.

The findings also revealed that conception of data, collecting and analysing of data, project designing, drafting and revising of manuscripts, submission and publication of manuscript, giving feedback on draft manuscript and accountability for the part of the work are the expected contributions of each academic librarian. These findings also agreed with the editors of the New England Journal of Literature who identified conception of data, drafting and revising of manuscript and final approval of the version to be published as the expected contributions of academic librarians in carrying out research work. The study found out that sharing of knowledge, skills and techniques, formal division of labour, cross fertilisation of ideas, intellectual companionship, and enhancing the potential visibility of work are the benefits of collaboration. These findings concur with Clarke (2009) who outlined that one of the benefits of collaboration is sharing of knowledge and techniques. Yank and Rennie (2005) also noted that collaboration may bring about cross fertilisation of ideas among co-authors. Furthermore, respondents agreed that fund from faculty, grant from government and personal funding could be the source of fund to carry out research work.

Finally, respondents agreed that inadequate funding, different opinions among authors, lack of coherence in aims, intentions and joined up thinking between authors, lack of proper communication among others and problem of reconciling different management culture are the challenges confronting authorship collaboration. The finding is in line with Tompkins et al (2000) who agreed that different opinions among authors is one of the problems confronting authorship collaboration. Leydesdorff (2008) also noted that the problem of reconciling different management cultures is one of the problems confronting authorship collaboration.

Conclusion

The observations and findings in this study confirmed that academic librarians aim to achieve growth and cordial relationship among other colleagues, improve quality of research and written result, increase efficiency of work, division of labour and enhance productivity in terms of publication. Conception of data, collecting and analysing data, project designing, drafting and revising of manuscript, submission and publication of manuscript, giving feedback on a draft manuscript and being accountable for the part of the work are the expected contributions of academic librarians in research work. Sharing of knowledge, skills

and techniques, formal division of labour, cross fertilisation of ideas, intellectual companionship and enhanced potential visibility of work are some of the benefits of collaboration. Academic librarians source for funds to carry out their research work from the faculty, grants from government and personal funding. Inadequate funding, different opinions among authors, lack of coherence in aims, intentions and joined up thinking between authors, lack of proper communication among others and problem of reconciling different management culture are problems confronting authorship collaboration.

Recommendations

Based on the findings, the researcher recommends that:

1. Adequate fund should be provided to encourage authorship collaboration among academic librarians.
2. Effective communication among academic librarians to promote collaborative work should be encouraged.
3. Academic librarians should come together to reach an agreement on issues concerning their collaborative work.
4. Academic librarian should develop inter-personal relationship among themselves so as to help in their collaboration.
5. Time should be spent keeping all collaborators fully informed of progress as well as deciding what to do next
6. There should be cross fertilisation of ideas among academic librarians which may in turn generate new insights that individuals working on their own could not have grasped.
7. Policy formulation that will guide every operations of the collaboration should be provided and fully implemented

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