Institutional Factors Associated with Faculty Participation in Research and Publication: A Case of Universities in Arusha City, Tanzania

Baraka Manjale Ngussa[*]

Senior Lecturer of Curriculum and Teaching, University of Arusha, Tanzania
*Corresponding author: ngussathe5th@gmail.com

Abstract This study sought to establish factors associated with faculty participation in research and publication. It employed survey design with 97 faculty respondents from four universities. The questionnaire was validated through expert judgment and Cronbach's Alpha of between 0.74 and 0.91 was established through pilot testing before the start of data collection. The study established that faculty members attend and present papers in research seminars, workshops and conferences. Gender and academic ranking, determined participation rates as males, lecturers and senior lecturers significantly participated more often than their female, Tutorial Assistant and Assistant Lecturer counterparts. The role of senior researchers is limited to encouraging juniors to publish without necessarily coaching them how to do it. Institutional support is non-existent due to lack of awareness of research policies and non-availability of material, moral and financial support. Finally, Institutional support positively influences mentorship and information centre quality. It is therefore recommended that institutional leaderships need to encourage faculty members to engage into book writing projects and editorial activities rather than confining themselves into journal article, book chapters and attendance in research conferences, seminars and workshops. Female educators, Tutorial Assistants and Assistant Lecturers should be empowered to increase rate of participation. Finally, institutional leaderships should create awareness of research policies to faculty members and extend material, moral and financial support to research and publication projects.

Keywords: faculty, participation, research, publication, institutional, support, mentorship, Arusha

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1. Introduction

Faculty engagement in research and publication should be a priority agenda in higher learning institutions. This is because "research constitutes a fundamental activity within Higher Education and, for many institutions, comprises a major revenue income stream" [1]. Furthermore, Research and Publication are key indicators for professional development of academic staff in higher learning institutions. Among other criteria, it is through research and publication that learning institutions can make informed decisions with regard to promoting educators from tutorial assistant position up to full professorship, based on the extent to which they have researched and published.

Apart from fund generation benefits to the institutions, research and publication participation extends numerous benefits to academicians. According to Cotrlik, Bartlett, Higgins and Williams [2], participation in research is one of key means to evaluate faculty members' efficiency. They further maintain that research productivity plays a major role in attaining success in academia as it relates to promotion and tenure, salary, and the fringe benefits of the profession.

While Research and Publication are two sides of the same coin, there has been a tendency of faculty members to participate in research without necessarily sharing findings with potential stakeholders. This was indicated by Nyaigoti-Chacha (2010, p.14) in his opening remarks to the research, expertise, and practitioners' meeting from the East Africa Region, whereby he pointed out that "a lot of research was going on within the Eastern Africa region but little knowledge of it was evident" ([3], p.14). According to Ngussa and Muneja [4], this statement could imply two possibilities: first, a lot of research started off but did not come to its accomplishment and secondly, a lot of research was conducted but results of it were not published.

The issue of engagement in research without publishing findings is further indicated by a recent information by Ngussa [5] who claims that it is common to hear graduate students justifying their academic research as partial fulfilment of graduation requirements but after graduation, nobody knows whether the newly discovered knowledge

and ideas have reached policy and decision makers to bring about transformation in this rapid changing word. As a result, great ideas end up in shelves where only a few from local environments can be able to access.

While there are numerous factors which may promote or hinder faculty participation in research and publication, student-educator ratios in higher learning institutions should not be undermined. Like many other countries, Tanzania has experienced rapid expansion of educational sector whereby the number of students in higher learning institutions has rapidly increased. "In a period of forty six years since independence, the education system in Tanzania has grown from only one institution of higher education in 1961 to more than 200 tertiary training institutions by December 2006" [6]. By the year 2016, Tanzania had 71 HLIs [7]. According to Makulilo [8], such increase does not correlate with increasing research demand to solve problems facing developing countries like Tanzania. Thus, faculty involvement in teaching while at the same time conducting research and publishing is one of current trends that demand researchers' attention.

Apart from student-educator ratio, mentorship, accessibility to information and institutional support are key factors that may be closely linked to the extent to which faculty members participate in research and publication.

The present study, therefore, sought to establish factors associated with faculty participation in research and publication in Arusha City, Tanzania. It was guided by four research questions namely;
1. What is the rate of faculty participation in research and publication among universities in Arusha City?
2. Is there significant difference in research and publication participation by faculty categorized according to their demographic factors?
3. What is perception of faculty members on factors associated with research and publication?
4. Is there significant association between participation in research and publication and selected institutional factors?

2. Related Literature and Studies

This section reviews literature and studies under three major subtopics namely Mentorship, Accessibility to Information and Institutional Support

2.1. Mentorship

Mentorship is a situation whereby experienced professionals extend their expertise to less-experienced ones in order to empower the less experienced to cope up with job demands and improve job performance. Previous studies indicate that "individuals who are mentored have an increased likelihood of career success as a result of the targeted developmental support they receive" ([9], p. 39). According to Alberts (2010) and Lee et al (2007) in Starovoytava [10], mentorship is an integral part of scientific-activity, for raising the-next-generation of scientists, teachers, and innovators. Cohen, Manion, and Morrison [11] further consider it as a situation whereby experienced and effective practitioners assist colleagues with less experience at the workplace. With this respect,

mentorship therefore engages less experienced and more experienced persons into contact with the aim of improving job performance.

Different authors have viewed mentorship as a key aspect for both professional and academic development. According to Rhodes (2002) in Nawaz, Jahanian and Manzoor [12], for instance, mentorship is a relationship of trust in which non-experienced people seeks support, guidance, encouragement from experienced persons which show concern in enhancing their competencies and character. Ikechukwu and Joy [13] further consider mentorship as a key strategy for increasing the capacity of beginning teachers to gain relevant skills, to overcome stress associated by job related challenges, to socialize better at the working environment and to advance more effectively in a given profession.

Particularly, mentorship is meant for professional development of academic staff in higher learning institutions. According to Yurtseven and Bademcioglu [14], professional development is a dynamic process, which continues throughout a person's career and extends to receiving training, starting a profession, and retirement. It is an experience whereby the mentor and the mentee interact for knowledge and experience sharing. According to Severina, Edabu and Kimani [15], mentors give their mentees challenging assignments which prepare them for top leadership positions.

In the context of research and publication, mentorship is a possible key determinant of effective knowledge creation and experience sharing from one generation to the next. This is well put by Mutie [16] who argues that mentoring a less experienced researcher is a professional responsibility of each scholar whose ultimate goal is to establish and develop the mentees as independent researchers. This suggests that academicians in the university settings, regardless of their academic ranking, have a role to play in empowering those under their ranks not only to climb the ladder of academic excellence but to increase ability to research and publish.

2.2. Access to Information

While the word information may have different meanings at different contexts, in this paper, it denotes knowledge needed for scholars to do research and publication successfully. This fact brings to view the essence of quality library as major source of information needed by scholars in their duties. Therefore, a system of education without well-equipped library with current, relevant and adequate resources is not complete. Thus, quality library is one of key factors for effective research and publication.

Access to information is a key aspect for best scholarly practices. While information can be accessed through different platforms, institutional libraries can play significant role in supporting research and publication. According to Mojapelo and Dube [17], libraries help to support the school curriculum by providing both learners and teachers with access to a wide variety of information resources and exposing learners to diverse ideas, experiences and opinions through which they can be able to write and/or publish. They further argue that equitable access to information resources is absolutely essential to

enable *learners* to execute their curriculum-related tasks and activities.

Information access refers to an entire range of possibilities for making information and information services available to the users. According to Simmonds, Andaleed and Sead (2001) in Dramini ([18], p. 119), "libraries are ... the "heart" of academic institutions, providing a base venue from which students and faculty members can conduct research and advance knowledge." Furthermore, it is argued that "academic libraries typically identify research ... as a central pillar in mission ([19], p. 37). It is from this background that access to information is linked to research and publication.

According to Kamal and Othman [20], institutional information centre is a generator for creating a knowledge society and a promoter for information literacy in line with rapid development of information and communication technology. Previous studies have indicated a need to hear views from consumers of library services and other stakeholders on the quality of the information centres so that necessary recommendations can be made for regular improvement. Particularly, Aluwunmi, Durodola and Ajayi ([21], 41) argue that "there is a need for service providers to consistently measure the performance of educational facilities' service quality - particularly library services." According to Dlamini (2005), when library service providers fail to improve customer services, they will end up having no customers.

2.3. Institutional Support

Institutional Support can be referred to as a situation whereby the organizational management helps its employees to fulfil their duties. In the context of professional development, Chan and Auster (2004, p. 270) in Kont and Jantson [22] consider "institutional support *as* the perception that managers and supervisors in the organization actively support employees in their updating efforts." They further regard managerial support as a significant factor in the participation of employees in training and development activities. They then call upon managers and supervisors to act as gatekeepers to training and development opportunities of their employees. In the context of this assertion, while there any numerous ways through which training and development can take place in higher learning institutions, participation in research and publication is the most important channels in which worldwide scholars can read and share information not only for self development but also for the development of other scholars.

Particularly, institutional support is one of important determiners for effective research innovation and publication. This is indicated by Zhang, Wang, Zhao and Zhang [23] whose research findings in China came up with a conclusion that institutional support positively affects product and process innovation and firm performance. While it is clear that conducting a research involves both time and financial resources, financial support can be highly appreciated by scholars in their effort to fulfil their research engagement. According to a group of researchers who conducted a study in Malawi about challenges facing researchers, expenses involved in research and publication are of great concern to researchers. Particularly, key challenges cited by survey respondents included lack of funds to cater for research and publication costs [24]. In response to this challenge, Bay and Cregio (2013) recommend that the top management of educational institutions should allocate significant budget to cater for the needs of the researchers in conducting their research projects. This therefore suggests that while universities demand educators to publish in order to realize professional development, research and publication should be given first priority in the institutional budget.

When university educators experience the support from the institutional administration, they gain motivation to fulfil the institutional goals and objectives. It is also true that when the institution does not support the effort of workers, the workers may get discouraged and fulfilment of intended goals may be hindered. This can be seen in the study findings of Opoku-Asare, Agbenatoe and deGraft-Johnson ([25], p. 121) about institutional support and student achievement that "weak institutional support discourage the teaching of practical lessons, including fieldtrips to derive aesthetic experiences from community resources."

3. Research Methodology

The present study employed quantitative research approach. According to Mugenda and Mugenda ([26], p. 156), "quantitative research includes designs, techniques and measures that produce discrete numerical or quantifiable data." With this regard, the collection of data involved closed-ended items in a self administered questionnaire.

3.1. Research Design

The study employed survey research design. According to Koul ([27], p. 434), "survey studies are conducted to collect detailed description of existing phenomena with the intent of employing data to justify current conditions and practices or to make more intelligent plans for improving them." According to Ahuja [28], survey involves a systematic and comprehensive study of a particular community organization or group in order to analyze a particular social problem so that to give appropriate recommendations. Cresswell [29] further considers survey as a popular design in education, used to collect data from a sample using questionnaires to describe the attitude, opinions, behaviours and characteristics of the population. With this regard, appropriate sampling was done.

3.2. Population and Sampling

Since the City of Arusha has seven institutions of higher learning that offer degree programs, three universities with a total number of 125 faculty members were randomly selected to constitute the sample for participation in the study. The researcher distributed self administered questionnaires to all faculty members of which 97 (76.8%) returned the questionnaire. Six questionnaires were spoiled and therefore only 91 questionnaires were suitable for use in data analysis.

3.3. Validity and Reliability

According to Ahuja [28], validity is ability for an instrument to produce findings that are in agreement with conceptual or theoretical values or success of the scale to measure what is meant to be measured. The questionnaires' validity was ensured through expert judgment. One research expert from the University of Arusha was pinpointed to check the questionnaire and give advice on its content suitability for data collection. Suggestions given were implemented accordingly prior to pilot study.

Reliability is defined by Ahuja [28] as ability of an instrument to produce consistent or reliable findings. Before data analysis, the questionnaire responses were coded to the SPSS for testing the Cronbach's Alpha. The cut off point for acceptable reliability was .700.

Table 1. Instrument Reliability Results

SN	Variable In Question	Cronbach's Alpha	Comment
1.	Participation in Research	.740	Reliable
2.	Institutional Support	.859	Reliable
3.	Research Mentorship	.909	Reliable
4.	Quality of Information Centre	.910	Reliable

As indicated in Table 1, the reliability analysis yielded Cronbach's Alpha of .740 for Participation in Research, .859 for Institutional Support, .909 for Research Mentorship and .910 for Quality of Information centre. Therefore, results justified the use of the questionnaire for data collection.

3.4. Data Analysis Procedures

In this study, quantitative approach was employed in the analysis of the questionnaire items which were in the four- likert scale with responses ranging from strongly agree (4), agree (3), disagree (2) and strongly disagree (1). The mean scores were interpreted as follows: 3.50-4.00 = strongly agree, 2.50-3.49= agree, 1.50-2.49 = disagree and 1.00-1.49 = strongly disagree. Descriptive Statistics established mean scores and standard deviation responses while t-test and Pearson Product Moment Correlational Coefficient tested differences and associations among variables under investigation.

3.5. Ethical Considerations

Before data was collected in the field, the researcher sought for permission from the government authorities. He wrote the letter to the Arusha Regional Administrative Secretary who gave permission for data to be collected within specified time. After this permission, the researcher moved from one institution to another, introducing himself to the administration of particular institutions before the distribution of the questionnaires.

4. Data Analysis and Interpretation

Analysis of data was guided by four research questions. Research question One and Three were analyzed through descriptive statistics in terms of mean scores and standard deviations while research questions number two and four called for testing of hypotheses and therefore were analyzed through inferential statistical tools namely t-test and Pearson Product Moment Correlational Coefficient respectively.

Research Question 1: What is the rate of faculty participation in research and publication among universities in Arusha City?

This research question sought to establish the rate of faculty participation in research and publication. Perceptions of respondents were indicated by mean scores which were interpreted as follows: 3.50-4.00 = strongly agree, 2.50-3.49= agree, 1.50-2.49 = disagree and 1.00-1.49 = strongly disagree.

As it can be observed in Table 2, the overall mean score for faculty participation in research and publication was 2.67, which is within the agreement zone (2.50-3.49). This suggests that faculty members generally agreed that they participate in research and publication. This is worth noting as "research constitutes a fundamental activity within Higher Education and, for many institutions, comprises a major revenue income stream" [1]. This further indicates that faculty members do not concentrate on teaching only but they do research and publish findings.

Table 2. Rate of Educators' Participation in research and Publication

SN	Item	Mean Score	Interpretation
1.	I attend research seminars, workshops and conferences	3.14	Agree
2.	In my history, I have published research article or book chapter.	2.91	Agree
3.	I actively participate in research and publication activities.	2.82	Agree
4.	I have prepared instructional manual for use in my classes	2.75	Agree
5.	Currently, I am engaged in a research project	2.66	Agree
6.	I have presented a paper in research conferences.	2.62	Agree
7	I have been a reviewer of academic research journal	2.44	Disagree
8	In my history, I have published a book	1.95	Disagree
	Overall Mean Score	2.67	Agree

Furthermore, it was deemed necessary to analyze the mean scores for each item about faculty participation in research and publication. As seen in Table 2, item number one to seven were rated between 2.50 and 3.49 denoting agreement. Particularly, respondents agreed that they actively participate in research and publication (2.82), currently they are engaged in research projects (2.66), they attend research seminars, workshops and research conferences (3.14), in their history, they have published research article or book chapters (2.91), they have prepared instructional manuals for use in classes (2.75) and they have presented papers in research conferences. As argued by Cotrlik, Bartlett, Higgins and Williams [2], participation in research is one of key means to evaluate faculty members'

efficiency. Furthermore, research productivity plays a major role in attaining success in academia as it relates to promotion and tenure, salary, and the fringe benefits of the profession. These findings therefore suggest proper functioning of higher learning institutions in Arusha City. It is also an indicator of efficient service rendered by faculty members in universities under investigation

On the contrary, item number seven and eight were rated between 1.50 and 2.49. This is within the disagreement zone. Particularly, they have never been reviewers of academic journals (2.44) and in their history they have never published a book. This means that participation in research and publication is limited to writing of journal articles, book chapters and instructional manuals. This suggests a need to sensitize participation in book writing and engagement in peer review tasks.

Research Question 2: Is there significant difference in participation in research and publication by faculty categorized according to their demographic factors?

This research question called for testing of a null hypothesis which states: Ho1: *there is no significant difference in participation in research and publication by faculty categorized according to their demographic factors.*

The researcher sought to establish differences in faculty participation in research and publication in terms by nature of institutions, genders, age, academic ranking and positions.

Participation by Nature of Institution

This section sought to compare the rate of participation in research and publication by faculty members between private and public institutions. As indicated in Table 3, the mean score for the two groups tallied at 2.67. Furthermore, t-test for equality of means yielded the Sig. of .996 which is greater than the critical value and therefore suggests no significant difference between private and public universities in the rate of faculty participation in research and publication. This is against Makulilo [8] whose study findings revealed that private universities in Tanzania do not carry out research activities and they have no records showing that they have ever carried out research activities except those theoretical papers by students. Observation schedule in one of private universities under investigation

revealed more than 70 journal articles, books and book chapters published by faculty members within five years.
Participation by Gender

As far as gender is concerned, the mean score for males was 2.75 while that of their female counterparts was 2.38. The t-test for equality of means was .028 which is lesser than the critical value (.05) suggesting rejection of the sub null hypothesis. Thus drawing an inference that there is a significant difference in participation in participation in research and publication by faculty members categorized according to their genders. While male respondents agreed that they participate in research and publication activities (2.75), females disagreed. This suggests that gender is a determining factor for faculty members to participate in research and publication.

Participation by Age

As far as age is concerned, the mean score for faculty members within forty years old and below was 2.54 denoting agreement, while that of faculty members of 41 years old and above was 2.81 which is equally denoting agreement. The t-test for equality of means was .056 which is greater than the critical value suggesting acceptance of the sub null hypothesis. Thus drawing an inference that there is no significant difference in participation in research and publication by faculty members categorized according to their age. Therefore, age is not a determining factor for faculty members' participation in research and publication.

Participation by Academic Rank

As far as academic ranking is concerned, the mean score for Tutorial Assistants and Assistant Lecturers was 2.45 denoting disagreement, while that of their lecturer and Senior Lecturer counterparts was 2.96 denoting agreement. The t-test for equality of means was .000 which is lesser than the critical value suggesting rejection of the sub null hypothesis. Thus drawing an inference that there is a significant difference in participation in research and publication by faculty members categorized according to their academic ranks. While Lecturers and Senior Lecturers agreed that they participate in research and publication activities, Tutorial Assistants and Assistant Lecturers disagreed. This suggests that academic rank is a determining factor for faculty participation in research and publication.

Table 3. Participation in Research and Publication by Demographic Factors

DEMOGRAPHIC FACTOR	MEAN SCORE	LEVENE'S TEST FOR EQUALITY OF VARIANCE	T-TEST FOR EQUALITY OF MEANS
Nature of Institution			
Private Universities	2.67	.891	.996
Public Universities	2.67		
Gender of Respondents			
Male	2.75	.308	.028
Female	2.38		
Age of Respondents			
40 years and Below	2.54	.972	.056
41 years and Above	2.81		
Academic Rank			
Tutorial/ Assistant Lecturer	2.45	.368	.000
Lecturers & Senior Lecturers	2.96		
Position of Respondents			
Leaders and Administrators	2.73	.044	.510
Faculty Members	2.63		

Participation by Position

Finally, as far as position is concerned, the mean score for leaders and administrators was 2.73 while that faculty members was 2.63. The t-test for equality of means was .510 which is greater than the critical value suggesting acceptance of the sub null hypothesis. Thus drawing an inference that there is no significant difference in participation in research and publication by faculty members categorized according to their positions. Therefore, position is not a determining factor for faculty members' participation in research and publication.

Research Question 3: What is the perception of faculty members on existence of mentorship, quality Information Centre and Institutional Support?

Table 4. Perception of Factors Associated with Research and Publication

SN	Variable	Mean Score	Std Deviation	Interpretation
1.	Mentorship	2.73	.645	Agree
2.	Quality of Information Centre	2.68	.636	Agree
3.	Institutional Support	2.36	.606	Disagree

In order to answer this question, it was important to establish the mean scores of key variables in this study. The mean scores were interpreted under the following zones of agreement or disagreement: 3.50-4.00 = strongly agree, 2.50-3.49= agree, 1.50-2.49 = disagree and 1.00-1.49 = strongly disagree.

According to Table 4, mentorship (M=2.73) and Information Centre Quality (M=2.68) were rated within the agreement zone signifying that faculty members perceived existence of mentorship quality information centre. On the contrary, respondents' Mean Score for Institutional Support was 2.36 which is within the disagreement zone, meaning faculty members generally disagreed that their institutions support research and publication activities.

The researcher went further to determine the extent to which specific items in each of the three factors was perceived by educators:

Findings on Mentorship

As reflected in Table 5, responses of faculty members to the top six items ranged between 2.50 and 3.49 denoting agreement. The overall mean score of 2.73 also indicate the same. Particularly, respondents agreed that

their institutions have research experts (3.10), there are colleagues from other institutions who inspire them to publish (3.02), there are senior researchers in their institutions (2.92) and they are surrounded by colleagues who publish. This suggests mentorship culture existing in institutions under investigation. This is worth noting because "individuals who are mentored have an increased likelihood of career success as a result of the targeted developmental support they receive" ([9], p. 39).

Furthermore, respondents agreed that there are senior researchers who inspire them to publish (2.70) but they disagreed that senior researchers are willing to coach their juniors. This therefore suggests that the role of senior researchers in mentorship is limited to encouraging juniors to publish without necessarily coaching them how to do research and publish. Respondents further disagreed that in their institutions there is a spirit of research collaboration and that they collaborate with those with less experience in research activities. This suggests that either research is conducted individually or faculty members of similar ranking conduct research together without collaborating with those under or above their academic ranks.

Quality of Information Centre

The overall mean score for Quality of Information Centre variable as reflected in Table 6 was 2.68 which is within the agreement zone. This suggests that respondents generally agreed that information centres at their particular institutions are of good quality for effective research and publication activities.

Likewise, the first eight items fall within the agreement zone. Particularly, faculty members agreed that it is easy to access materials in the library (2.94), that the libraries are well organized (2.84) and that there is customer care in their institutional libraries (2.76). This suggests that library workers in institutions under investigation not only ensure proper arrangement of library materials in such a way that books and other sources of information can be easily accessed but also extends good customer care to the readers in the libraries.

Furthermore, faculty members agreed that libraries have materials related to their fields of specialisation (2.67). They also agreed that they can access theses and dissertations (2.63) as well as online journals (2.62) and print journals (2.54). This is something worth noting as availability of dissertations, print and online journals gives access to faculty members to explore what has been accomplished by previous researchers and assist them to make informed decision on areas they can choose in their research activities.

Table 5. Perception of Respondents on Mentorship

SN	Item	Mean Score	Interpretation
1.	My institution has research experts	3.10	Agree
2.	There are colleagues from other institutions who inspire me to publish	3.02	Agree
3.	There are senior researchers in my institution	2.92	Agree
4.	My colleagues are happy to see me publish	2.90	Agree
5.	I am surrounded by colleagues who publish	2.81	Agree
6.	There is a senior researcher who inspires me to publish	2.70	Agree
7	Senior researchers are willing to coach their juniors	2.48	Disagree
8	In my institution there is a spirit of research collaboration	2.47	Disagree
9.	I collaborate with those with less experience in research activities	2.44	Disagree
	Overall Mean Score	2.73	Agree

Table 6. Perception of Respondents on Quality of Information Centre

SN	Item	Mean Score	Interpretation
1.	It is easy to access materials in the library	2.94	Agree
3.	The library is well organized	2.84	Agree
2.	There is customer care in my institutional library	2.76	Agree
4.	Library has materials related to my field of specialization	2.67	Agree
5.	I can access theses and dissertations in my institutional library	2.63	Agree
6.	I can access online journals in my institutional library	2.62	Agree
7.	I can access print journals in my institutional library	2.54	Agree
8.	The library is sourced with current publications	2.47	Disagree
9.	There is a variety of publications in the library	2.45	Disagree
	Overall Mean Score	**2.68**	**Agree**

However, the mean score of the last two items in Table 6 was between 1.50 and 2.49, denoting disagreement. Particularly, respondents disagreed that the libraries are sourced with current publications (2.47) and that there is a variety of publications in the libraries (2.45). This indicates that the libraries have outdated materials and those materials are not of various types. Therefore, there is need for educational institutions to ensure availability of current literature of various types.

Institutional Support

As far as institutional support is concerned, the overall mean score was 2.36. This denotes disagreement that institutions under investigation support research and publication activities. When we look at specific items, it is clear that faculty members agreed that their institutions have research and publication policy (2.98) but the policy is not known (2.45). This indicates lack of awareness of research and publication policies in higher learning institutions under investigation. They also agreed that institutional leadership encourages faculty members to publish (2.85), research conferences and workshops take place in their institutions (2.61) and the institutions follow up publication trends of faculty members (2.50).

Disagreement of institutional support was further indicated by mean score of the last four items in Table 7 in which faculty members disagreed that institutions gives tokens of appreciation to those who publish (2.33). They also disagreed that institutional budget consider research and publication (2.07), and that institutions sponsor research conference attendance (2.03) and publication (1.94).

Research Question 4: Is there significant association between participation in research and publication and selected institutional factors?

This research question called for testing of a null hypothesis which states: *there is no significant association between research and publication and selected institutional factors*.

The hypothesis was tested by Pearson product Moment Correlational Coefficient in order to reveal whether selected institutional factors have any association with research and publication. As seen in Table 8, the study did not establish any association between participation in research and publication and the institutional factors namely; Institutional Support, mentorship and information centre quality. However, with significant correlations at the .01 level (2-tailed), we reject the null hypothesis and establish significant association between the following variables:

Table 7. Perception of Respondents on Institutional Support

SN	Item	Mean Score	Interpretation
1.	My institution has research and publication policy.	2.98	Agree
2.	Research and publication policy is known to faculty members.	2.45	Disagree
3.	Institutional leadership encourages faculty members to publish.	2.85	Agree
4.	Research conferences and workshops take place at my institution	2.61	Agree
5.	My institution follows up publication trends of faculty members	2.50	Agree
6.	My institution gives tokens of appreciation to faculty who publish.	2.33	Disagree
7.	My Institutional budget considers research and publication.	2.07	Disagree
8.	My institution sponsors research conference attendance	2.03	Disagree
9.	My institution sponsors faculty members to publish	1.94	Disagree
	Overall Mean Score	**2.36**	**Disagree**

Table 8. Association between Participation and Selected Institutional Factors

		Research and Publication	Institutional Support	Mentorship	Information Centre Quality
	Pearson Correlation	1	.124	.205	.027
Research and Publication	Sig. (2-tailed)		.242	.051	.802
	N	91	91	91	91
	Pearson Correlation	.124	1	.663**	.467**
Institutional Support	Sig. (2-tailed)	.242		.000	.000
	N	91	1	91	91
	Pearson Correlation	.205	.663**	1	.524**
Mentorship	Sig. (2-tailed)	.051	.000		.000
	N	91	91	91	91
	Pearson Correlation	.027	.467**	.524**	1
Information Centre Quality	Sig. (2-tailed)	.802	.000	.000	
	N	91	91	91	91

**. Correlation is significant at the 0.01 level (2-tailed).

Mentorship and Institutional Support: There is a positive yet moderate (.663) correlation between mentorship and institutional support. This suggests the more the institutional support, the more the mentorship. This means effective mentorship will take place when the higher learning institutions support research and publication activities. In other words, the intensity of mentorship depends on the extent to which institutions support research and publication activities.

Information Centre Quality and Institutional Support: There is also a positive yet moderate (.467) correlation between Information Centre Quality and institutional support. This suggests the more the institutional support, the better the quality of the Information Centre. This means the quality of the information centre increases when the institutions give support. In other words, the quality of the information centres depends on the extent to which the institutions gives support.

Mentorship and Information Centre Quality: There is a positive and moderate (.524) correlation between mentorship and Information Centre Quality. This suggests the better the information centre quality, the more the mentorship takes place. This means mentorship intensity increases when the quality of information centre increases. This is due to the fact that when the quality of the information centre is good, it will be easier for junior researchers to read, write and publish under the guardianship of more experienced researchers.

5. Conclusions and Recommendations

5.1. Conclusions of the Study

Based on findings and discussion in this study, the researcher came up with the following conclusions:

1. Generally faculty members participate in research and publication through engagement into specific research projects, attendance to research seminars, workshops and conferences, publishing research articles, books and book chapters and presenting papers in research conferences. Engagement in research and publication, however, is more often limited to writing of journal articles, book chapters and instructional manuals at the expense of book writing and involvement in editorial activities.
2. Nature of institution (public or private), age and position do not determine the rate of participation in research and publication. Gender and academic ranking, however, were perceived to determine participation in research and publication as males, lecturers and senior lecturers significantly participated in research and publication more often than their female, Tutorial Assistant and Assistant Lecturer counterparts.
3. There is an existence of mentorship and quality information centers to support research and publication. The role of senior researchers as mentors, however, is limited to encouraging juniors to publish without necessarily coaching them how to do research and publish.
4. Institutional support for research and publication is non-existent due to lack of awareness of research

policies by faculty members and non-availability of material, moral and financial support from the institutional leaderships.
5. Involvement in research and publication activities does not correlate with institutional support, mentorship and Information Centre Quality. However, Institutional support positively influences mentorship and information centre quality.

5.2. Recommendations of the Study

Based on above conclusions of the study, the researcher came up with the following recommendations:

1. Institutional leaderships need to encourage faculty members to engage into book writing projects and editorial activities rather than confining themselves into journal article, book chapters and attendance in research conferences, seminars and workshops.
2. There is need to empower female educators, Tutorial Assistants and Assistant Lecturers to increase rate of participation in research and publication. This can be achieved through effective mentorship and practical coaching from more experienced researchers to those with less experience.
3. Institutional leaderships need to create and or increase awareness of research and publication policies to faculty members and extend material, moral and financial support to faculty members in their research and publication projects.
4. Institutional support should be maximized in order to increase the quality of mentorship and improve the quality of information centre services.

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