EFFECT OF ACADEMIC STAFF QUALIFICATION ON RESEARCH PRODUCTIVITY IN KENYAN PUBLIC UNIVERSITIES; EVIDENCE FROM MOI UNIVERSITY

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Abstract

The purpose of the paper was to assess effect academic staff qualification on research output in Moi University. The study used a descriptive survey design to collect the pertinent data. The target population consisted of all the 1424 academic staff of Moi University. The study randomly selected 242 academic staff using academic. Data was collected using structured questionnaires. Data analyzed using Descriptive statistics and inferential statistics (Multiple Regression). Finding indicated that the staff qualifications positively influenced research output the most. The study concluded that the staff qualifications to staff could predict significantly the research output by the university staff. The study therefore recommended that universities and the government must improve the hire qualified staff in order to improve research output in the universities; further, it also recommends that more studies should be conducted to identify other ways of dissemination research output other than publications and other measures of research productivity such as optimization of funding, as well as comparative studies which will give more comprehensive results to guide further improvement.

Keywords: Academic Staff, Research, Productivity, Universities, qualification, research output

INTRODUCTION

Universities and other academic institutions have constantly served as feeder institutions in the overall development of nations through scientific research (Uzoka, 2008). National governments and a number of organizations have invested huge amounts of money in the development of research in universities. Some countries rank higher education institutions according to their

research performance (Williams& Van Dyke, 2008). The staff of higher education institutions are considered to be the key research resource. Academic staff, in particular, account for a significant component of the budget of higher education institutions and have played an important role in achieving the objectives of the institution. Oloruntoba and Ajayi, (2006) observed that research publication in the university is a major or most significant indicator of academic staff productivity, and that research attainment is determined by the number of published articles in refereed journals and conference proceedings of repute. Research productivity in academic institutions is reflected in the number and quality of articles published by the affiliated faculty. Often, departments evaluate their faculty on their "publication count" (Hadjinicola and Soteriou, 2005).

Research Productivity is combination of two words "Research" and "Productivity". "Research" means very careful, observant, and vigilant study or investigation of phenomena, particularly to search and find out new particulars, information and facts, while "Productivity" means production or output, produced in duration of time. With reference to higher education, research productivity means, publications of papers in professional journals, in shape of books or presentation of research papers in conference proceedings. (Iqbal and Mahmood, 2011)

For the purpose of this research, research output refers to publications of papers in professional journals, books and articles or presentation of research papers in conference proceedings or displaying on the web or making its presentation on the television or radio. Research productivity in academic institutions is reflected in the number and quality of articles published by the affiliated faculty. Often, departments evaluate their faculty on their "publication count" (Jaunch and Glueck, 2010). Research productivity evaluation has a significant impact on tenure decisions and promotions in general, salary raises, and mobility, especially in research-oriented schools.

Nirman (2007) argued that the mission of higher education is to advance knowledge, to create knowledge, to disseminate knowledge through research and to provide a service to the community. An effective researcher according to him, should be able to assist societies in cultural, social and economic development, and promotes scientific research in the social sciences, humanities and in the creative arts. Frantz et al. (2010) in his study explained that research plays an important role in helping academics to identify gaps in knowledge through critical appraisal of available literature. Process of publication allows academics to develop as researchers through a peer-review process that scrutinizes their work and acceptance for publication acknowledges the value of the research and the contribution to the area.

Research publications enable academicians to earn better salary package and get better terms of employment. (Hadjinicola and Soteriou, 2005) In addition, strong research profile also

adds reputation, visibility, and recognition, not only to the individual academic staff, but also to the department, school and university at large. Research and other forms of scholarly activities are important to the individual researchers as they bring personal and professional recognition and rewards (Azad et al, 2007) For universities, research is becoming an increasingly important income source. A study of Canadian universities showed that sponsored research comprised 15.6% of university revenues in 1992, and 23.5% of university revenues in 2003 (Canadian Association of University Teachers Newsletter, 2004).

Research also has a greater symbolic impact on universities, as a university's research and granting record is being seen and used as a measure of its excellence. A number of college and university rankings today list institutions bases on the number of publications as well as research grants attracted. Webometrics for instance, ranks institutions based on web publications, i.e. number of journals available on website; The High Impact Universities Research Performance Index (RPI) is a 2010 Australian initiative that ranks university research performance as measured by publications and citations; The University Ranking by Academic Performance (URAP) ranked 2,000 universities according to an aggregation of six academic research performance indicators: current productivity, long-term productivity, research impact, cumulative journal impact, quality, and international collaboration.

In Moi University, several factors can be held accountable for low research output. There is limited allocation of funds for research and conference kitty. For instance, the University Annual Research grant program only allocates up to Ksh. 500,000/- per school (Moi University Research Policy, 2008) which is quite inadequate; lecturers are faced with heavy teaching workload, made worse by the University expansion program to satellite campuses, doubled by the government's double intake decision; other factors include bureaucracy in processing of funds, both internal, within the university and external, from the government, and low levels of motivation.

From the above background, this study sought to investigate academic staff research productivity in public universities in Kenya by studying the case of Moi University. The study intended to examine factors that determine the production of academic research. From the results of the analysis, the study shows that the determinants identified satisfactorily determine the output of research. The importance of research to a University cannot be overemphasized; it leads to generation of new knowledge, engenders innovations, enhances the quality of teaching staff, increases an institution's reputation and its economic status. However, there has been a low level of research production and a contraction in participation in research activities by University in Kenya (Kendagor, 2012). Besides teaching, research has become a core function of universities around the world. Yet, like in many African countries, Kenyan universities still lag

behind in terms of research productivity, due to factors many researchers refer to as constraints. Thus, this study hypothesized that:

H_0:   *There is no significant relationship between staff qualifications and research output*

THEORETICAL REVIEW

According to Self-Determination Theory, Deci & Ryan (1985) postulate that intrinsic motivation is the energizer of the organismic integration process through which elements of one's internal and external worlds are first differentiated and then integrated harmoniously with one's existing structures. The integrative process requires exploratory behaviours to foster the development of competencies. The exploratory behaviours are typically intrinsically motivated. If they actually lead to the development of competencies, they in turn enhance intrinsic motivation. Therefore, intrinsic motivation and exploration are thought to be functionally and dynamically related throughout the development process (Ryan & Deci, 2000). But according to Brewer's (1990) research finding, non-monetary rewards are viewed as the least important factor in motivating faculty to engage in research and is cited as being used less frequently than some of the other methods. Therefore, the six intrinsic motivation factors (interest, sense of achievement, scholar improvement, contribution, responsibility and autonomy) drawn from the previous literatures are tested in this study.

EMPIRICAL REVIEW

Several studies have been conducted to examine the relationship between research output and the factors that support researchers in their efforts to publish. Different variables were identified that correlate with research output. Earlier studies primarily focused on analyzing association of productivity with variables such as institutional size, academic rank, age, gender, etc. More recent studies incorporate psychological and other latent variables in analyzing productivity. Finkelstein (1984) identified academic rank as a significant predictor of publication success. His study observed that the academic lecturers in higher ranks generally had more control over their workload assignment, allowing them to produce more research than those of a lower rank.

Fulton and Trow (1974), in their study of research activities in American higher education, reported that researchers with higher qualifications produced more publications than those with lower qualifications. Their study found that of the total respondents, 29% of the full professors, 20% of the associate professors, 13% of the assistant professors and 2% of the instructors had published five or more articles in a two-year period. This results supported the findings of Bailey (1992) who pointed out that rank is a significant predictor of research productivity. Dundar and Lewis (1998) also found that departments with higher ranked faculty

resulted in higher research productivity (Vasil 1992). Iqbal and Mahmood (2011) also observed that inadequate skills in statistics and research methodology accounted for low research productivity amongst academic staff.

In addition, Study by Frantaz et al (2010) reported that the consistent research output of the department studied could be attributed to the researchers' qualifications. He found that a higher level of research productivity was more prevalent among senior academics. This was also supported by the existence of postgraduate programmes, where Master's and Doctoral students graduated annually and converted their theses into publications. The researchers concluded their study by saying that success in scholarly productivity could be enhanced by a good interaction between senior and junior staff as well as a culture of research evident from the successful postgraduate programme and publication output. If the research productivity among junior academics was to be improved, strategies such as mentoring of junior academics by senior academics in the form of joint publications needed to be put in place.

RESEARCH METHOD

The study adopted cross-sectional and explanatory research designs. The study targeted 1424 University's academic staff population in Moi University (Revised Strategic Plan 2009/10-2014/15). Random sampling technique to select a size of 242 .Primary data was intensively used in this research. *Qualification of researchers* was measured by the highest degree obtained (bachelors, masters or doctorate) and their opinion as to whether they had the necessary knowledge in research methods, or their qualifications influenced the nature of research work they undertook. Secondary data was used to inform the research, and especially in establishing the background information and problem statement. Reliability of the research instrument was measured using Cronbach Alpha.

Table 1: Cronbach Alpha

Variable	Items	Cronbach Alpha
Independent Variables (factors affecting research)		
Academic qualification	3	0.701
Dependent Variable (Research Output)		
Publication Count	8	0.756
Conference presentation	3	0.784
Media Presentation	3	0.718

Data entry and management was undertaken using SPSS version 17.0. Data was converted to numerical codes, and entered in a predesigned data entry spreadsheet in SPSS. Similar

information was then categorized and grouped together to give a summary of results using descriptive statistics. The descriptive statistics used included measures of central tendency (mean), and measures of dispersion (standard deviation). These statistics were used to determine the relative importance of the critical factors of both the dependent and independent variables. Pearson's correlation and Pearson Chi-square were conducted to determine the relationship between the different types of variables. The correlation coefficient indicated both the magnitude and direction of the linear relationship of the variables. The correlation matrix was then used as the standard form of reporting the correlation results. In testing the hypothesis, P values were used to either reject or accept the hypothesis, and the decision rule was at 95% level of confidence.

FINDINGS

Sample characters

Demographic information shows the characteristics of the elements in the sample size; this helps the researcher to understand the general view of his/her respondents. As such, the researcher sought to establish the general information of the respondents. The respondents were selected from the various grades of the teaching staff. The characteristics regarding respondents included: gender, age and years of service.

Table 2. Demographic Information On Gender And Age

		Frequency	**Percent**
Gender	Male	122	62.7%
	Female	71	37.3%
	Total	**193**	**100**
age of respondent	below 30 yrs	31	16.1%
	31-40 yrs	84	43.5%
	41-50 yrs	51	26.4%
	51 yrs and above	27	14%
	Total	**193**	**100**
Years of Service	1-4 yrs	90	46.6
	5-9 yrs	48	24.9
	10-14 yrs	29	15
	above 14 yrs	26	13.5
	Total	**193**	**100**

Sixty three percent (63%) of the respondents in this study were male, while thirty seven percent (37%) were female. The results indicate that majority of academic staff in the university are male. Forty four percent (44%) of the respondents were within the age bracket of 31- 40 years while twenty six percent (26%) were between 41-50 years. Sixteen percent (16%) of the respondents were below 30 years old. Only fourteen percent (14%) of the respondents were above 50 years. This results illustrate that majority of the academic staff in the university are young and emerging, hence more opportunity and vigor to venture more in research. Moreover, majority (46.6%) of the respondents had 1 – 4 years of services, followed by 24.9% of them with 5 - 9 years.

Academic Qualification

Table 4. Descriptive Items on Academic Qualification

	Mean	Std. Deviation
I am often assigned difficult research tasks in the university	3.43	1.135
my qualifications influence the nature of research I undertake	2.42	1.082
I have adequate knowledge required in research methods such as data collection and data analysis	2.23	1.058
	2.68	0.841

Study of analysis in table 4 indicated that respondents agreed that academic qualification influences the nature of research they undertake and that they have adequate knowledge required in research methods such as data collection and data analysis as indicated by means of 2.42 and 2.23 respectively. Nevertheless, respondents were neutral on "I am often assigned difficult research tasks in the university" rated by mean of 3.43.

Table 5. Academic Qualification In Relation To Publication Count

		The Highest Level of Qualification			Pearson's	P
		Undergraduate	Masters	Phd	R	Value
Research	**None**	0.5%	7.8%	0	0.596	.000c
Undertaken	**1 to 2**	7.8%	29.5%	5.7%		
	3 to 4	0	17.1%	12.4%		
	5 to 6	0	0.5%	6.7%		
	7 and above	0	0.5%	10.4%		

Books Have You Published Between Year 2002 And 2010	**None**	7.8%	34.2%	7.8%	0.505	.000	Table 5...
	1 to 2	0.5%	20.7%	18.1%			
	3 to 4	0	0.5%	8.3%			
	5 to 6	0	0	1%			
Local Journals Between Year 2002 And 2010	**None**	5.7%	16.6%	1%	0.542	.000	
	1 to 2	1.6%	26.4%	11.4%			
	3 to 4	1%	9.8%	8.3%			
	5 to 6	0	1.6%	4.1%			
	7 and above	0	1%	10.4%			
International Journals Between Year 2002 And 2010	**None**	7.3%	37.3%	2.1%	0.513	.000	
	1 to 2	1%	15%	20.2%			
	3 to 4	0	2.1%	2.1%			
	5 to 6	0	0	2.6%			
	7 and above	0	1%	8.3%			

Table 5 shows that researchers with PhD qualification tend to undertake more researches as shown by 12.4 % of them undertaking 3 to 4 researches, 7% undertaking 5 to 6 researches and 10% undertaking seven and above researches, as compared to masters degree holders. Of those with masters as the highest level of qualification most of them (29.5%) had undertaken 1 to 2 researches. Interestingly, 7.7% of the respondents with undergraduate qualifications had undertaken research 1 to 2 researches. These results imply that the level of qualification influences the research undertaken by individuals. The results are supported by Pearson's R value of 0.596 with P value 0.000 which show that there is positive and significant relationship between academic qualification and research undertaken.   On the question of books published between year 2002 and 2010, the PhD holders had published more as shown by 18% with 1 to 2 books, 8.3% with 3 to 4 books, and 1.3 % with 5 to 6 books. 21% of the master's degree holders had published 1 to 2 books, and only 0.5% had 3 to 4 books. The Pearson's R value derived was 0.505 with P value 0.000 showing that there was positive and significant relationship between academic qualification and research undertaken.

Regarding local journals, 11% respondents with PhD reported that they had 2 to 3 publications, while 8.3%, 4.1% and 10.4% had 3 to 4, 5 to 6 and published 7 and above local journal publications. Of those with master's degree, majority, 26.4% of them had 1 to 2 publications, and 9.8% had 3 to 4 publications. Pearson's R value of 0.552 with P value 0.000 shows that there is positive and significant relationship between academic qualification and local journal publications.

Regarding international journals, the findings indicated that of those with PhD majority 20.2% had 1 to 2 publications, and 8% 7 or more publications. 2.1% of them had no publications in international journals. On the other hand, 15% of the masters degree holders had 1 to 2 publications, 2.1% had 3 to 4 publications while 37.3% had no publications in international journals. Pearson's R value of 0.513 with P value 0.000 shows that there is positive and significant relationship between academic qualification and international journal publications.

Table 6. Academic Qualification In Relation To Conference Presentation

		The Highest Level Of Qualification			Pearson's R	P value
		Undergraduate	**Masters**	**Phd**		
how many presentations/ papers have you had in local conferences between year 2002 and 2010.	**None**	5.2%	12.4%	0.5%	0.586	.000
	1 to 2	2.1%	30.6%	9.3%		
	3 to 4	1%	10.4%	8.8%		
	5 to 6	0	1%	5.2%		
	7 & above	0	1%	11.4%		
how many presentations/ papers have you had in international conferences between year 2002 and 2010.	**None**	8.3%	42.5%	6.7%	0.513	.000
	1 to 2	0	9.8%	15.5%		
	3 to 4	0	2.1%	6.2%		
	5 to 6	0	0	1%		
	7 & above	0	1%	5.7%		

Table 6 shows the findings of academic qualification in relation to conference presentations. The results show that majority (11.4%) of the PhD holders had 7 and above local conference presentations, while 9.3%, 9% and 5.2% had 1 to 2, 3 to 3 and 5 to 6 presentations respectively. These figures are higher compared to master's degree holders who reported to have 1 to 2 presentations (31%) and 3 to 4 (10.4%) presentations. These results further support that academic qualification affects research output, as evidenced by Pearson's R value of 0.513 with P value 0.000, showing positive and significant relationship between academic qualification and international conference presentation.

Table 7. Academic Qualification In Relation To Media Presentation

		The highest level of qualification			Pearson's r	P value
		Undergraduate	Masters	Phd		
how many presentations/ papers have you had on radio/Television between year 2002 and 2010	none	8.3%	53.4%	28%	0.251	.000
	1 to 2	0	2.1%	5.2%		
	3 to 4	0	0	1%		
	7 & above	0	0	2%		
how many presentations/ papers have you had in print media between year 2002 and 2010	none	8.3%	51.8%	21.8%	0.389	.000
	1 to 2	0	3.1%	5.2%		
	3 to 4	0	0.5%	6.2%		
	5 to 6	0	0	1%		
	7 & above	0	0	1%		

Table 7 shows the relationship between academic qualification and media presentation of research output as was observed in the study. The table shows that PhD holders tend to present more on media as shown by 5.2% tally on 1 to 2 radio/ television presentation and 6.2% on print media presentation, as compared to 2.1% of master's holders with 1 to 2 radio/ television presentation and 3.1% with 1 to 2 print media presentation. The Pearson's R value of 0.389 with P value 0.000 computed supports the positive and significant relationship between academic qualification and print media presentation.

CONCLUSION AND RECOMMENDATIONS

Regarding hypothesis, Correlation results implied that the higher the level of qualification resulted in more research undertaken more book publication, more local journal publication and more professional journal publications. Overall, academic qualification was related to research output. Results concluded that academic qualification had the highest positive and significant effects on research output. This supports findings by Frantaz et al (2010) that higher level of research productivity was more prevalent among senior academics. The results therefore indicated that better qualifications, improvement in research environment, increased funding, and more time availed to staff for research will likely increase research output. This study has identified the researcher's qualifications as a key factor in research productivity. Universities should therefore implement plans that will encourage staff to pursue higher degrees, as well as acquire specialized skills in research methodology. These include institutionalizing scholarship and fellowship programs, as well as continuous training on research methodologies through the research workshops. The University should also encourage their graduates, especially those

already teaching, to convert their theses into publications. The results of this study showed low counts of media presentation of research findings, as compared to book and journal publication, and conference presentations. Further research can therefore be conducted to identify and publicize of other means of dissemination research findings, media presentations being one of them. Last but not least, other measures that relate to research productivity such optimization of allocated funds to determine the output efficiency can be studies, as results from such studies would contribute to efficient managerial practices.

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Page 619

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