

Employee Involvement System and Valorization of Academic Research in Chartered Universities in Kenya

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Abstract: *The purpose of this study was to establish the influence of employee involvement system on valorization of academic research in chartered universities in Kenya. The study employed an explanatory design and collected data from 372 respondents in both public and private chartered universities. Quantitative data was obtained using self-administered questionnaires. Data collected was analyzed descriptively and inferentially with the help of Statistical Package for Social Sciences and the findings presented in tables. The study established that employee involvement system had a moderately strong and positively correlation with valorization of academic research and that employee involvement system was a significant predictor of valorization of academic research. The study therefore concluded that employee involvement system significantly influenced valorization of academic research. The study recommended the need for universities to strengthen employee involvement system, amendment of policies on structured investments on collaborative work, enhanced research fund mobilization and enhanced university-industry linkages.*

Keywords: Employee Involvement, Valorization of Academic Research

I. INTRODUCTION

Organizations have realized that knowledge, its fast acquisition and utilization represent the only source of sustainable competitive advantage. In fact, the effective exploitation of knowledge resources is the basis of the development of those capabilities that ground the organization's capacity to deliver successfully targeted value propositions (Fonseca *et al.*, 2021). From an academic point of view, the interest in knowledge resources as driving forces behind the creation of organizational value has generated several studies (Holloway & Herder, 2019). Significantly, more remains to be understood about the complex dynamics through which knowledge resources take part in organization's value creation. Value creation or valorization is achieved by implementing specific principles and processes into conversion of research outputs to benefit society through value addition. According to the Association of University Technology Managers (AUTM, 2018), a number of universities in the US have demonstrated considerable success in their valorization activities. Similarly, there have been vast increases in patenting, licensing, and spinoff formation observable across Canada, Australia, and Europe. Technologies that have been transferred from research to industry have resulted in some of the most innovative companies of the past decades, including Genentech Inc., Plastic Logic, Apple and Google. Valorization is therefore recognized as an immensely valuable process, improving local economic development, generating novel products and services, and generally enhancing the quality of life through various spill-over effects (Ross *et al.*, 2017).

Universities are responsible for knowledge dissemination and production through teaching and research; however, they have now assumed a third mission of adding value to research for societal benefit (Fonseca *et al.*, 2021). Despite the increasing interest in gaining knowledge about how to support the transfer of university research into the commercial domain there are few studies that empirically examine the very early stages where the initial ideas for commercial exploitation are first identified and developed (Fonseca *et al.*, 2021). Academics are in this respect are important in the generation of business ideas that can be developed and commercially exploited since they have a deep understanding of the technology underlying their research, their career has provided them with opportunities to build up a network of relationships and by reaching the highest academic position they have come to a career turning point where they may seek to diversify their career activities (Marques *et al.*, 2019). Hence, it is reasonable to suggest that lecturers are key

persons in the early stages of the process where research results are transformed into ideas for new or improved products or services (Lietner *et al.*, 2021). Even though university management structures seek organizational alignment, faculties, departments and individual researchers diverge in their priorities and approaches. Academics, however, play a significant role as they actively generate ideas, nurture the research process and add value to research outputs by translating their strategic priorities into reality using their expert knowledge for the benefit of society (Marques *et al.*, 2019).

Academic researchers are thus the engine of valorization of research though they are influenced by the existing HRM system. Local studies are largely focused on knowledge management and where knowledge transfer studies have been undertaken, focus has been business incubation. University research will be beneficial to society if the results can be converted into products and services (Fonseca *et al.*, 2021). However, according to CUE (2018), less than 60% of the academic staff disseminated their research results and that only about 28% developed research products. Some of the reasons cited include lack of funding, business expertise; low understanding of valorization, lack of appropriate human-capital and lack of mentoring and educational support for new entrepreneurs. Several studies have been carried out on valorization and commercialization of research outputs in Kenya (Kendagor, 2018; Muia & Oringo, 2016). These studies however focused on gathering perceptions and views from university managers on research outputs and generalized constraints to valorization of academic research to include resource, institutional, cultural and human capital constraints. In particular, all these studies point out the importance of human resource factors (Kendagor, 2018; Kiprotich *et al.*, 2024; Muia & Oringo, 2016). However, there is little or no evidence locally of any empirical study that has investigated the link between employee involvement system and valorization of academic research.

II. LITERATURE REVIEW

Studies have investigated employee involvement and various performance measures with diverse findings. For example, Tenrisau *et al.*, (2019) investigated the mediating role of effort in the relationship between job involvement and job performance in Indonesian private universities and revealed that job involvement significantly influenced job performance. Their study employed anon-experimental design using a quantitative approach and targeted 153 lecturers using questionnaires. Their study further found that effort had a mediating effect on the relationship between job involvement and job performance. Their study however was undertaken within a different context and focused on private universities. Rui (2016) analyzed the effects of employee involvement on enterprise innovational performance in China and found that employee involvement played a positive role in the creation of enterprise business innovation but was harmful to the commercialization of such an innovation. Their study employed a survey design and used questionnaires to collect data targeting 127 large and medium Chinese companies. Their study also found that employee involvement was harmful to the commercialization of innovation but helpful to the creation of innovation when formality degree is low. Their study however was carried out in the Asian context and focused on innovational performance in both university and private sector organizations.

Kisaka *et al.*, (2019) sought to establish the effect of involvement on employee performance in Ugandan public universities and found that involvement significantly influenced employee performance. Their study adopted a descriptive cross-sectional survey research design using both quantitative and qualitative research methods and targeted 2236 top university administrators teaching and non-teaching staff members using interviews and questionnaires. They recommended that universities should adapt the culture of involvement of employment to enhance employee output and overall growth and sustainable development of universities. Their study was however carried out in a different context, targeted all employees, and did not focus on value addition of research outputs. Furthermore, Odero and Makori (2018) examined the relationship between employee involvement and employee performance of part-time lecturers in Kenyan public universities and found that employee involvement significantly influenced employee performance. Their study adopted descriptive survey research and targeted 60 part-time lecturers from four public universities in the western region of Kenya. The study used structured questionnaires to collect data. The study recommended that universities should adopt employee involvement programs to enhance their performance, growth and competitiveness. However, their study focused on part-time lecturers in public universities and did not assess valorization of academic research. From the reviewed studies, it is evident that empirical studies have found mixed findings. We therefore hypothesize that:

H₁: Employee Involvement System Significantly Influences Valorization of Academic Research

III. RESEARCH METHODOLOGY

This study adopted an explanatory design with a cross-sectional approach. The study targeted all 5138 lecturers teaching in 49 chartered universities in Kenya. Using statistical formulae, a sample of 372 respondents was obtained. The study employed a mixed sampling technique: Firstly, proportionate stratified sampling was used to allocate the tabulated

sample of 372 in the 31 public (305 respondents) and 18 private chartered universities (67 respondents). Secondly, in each of the universities, simple random sampling technique was adopted in selecting respondents. The study used closed ended questionnaires to collect data. The questionnaires were piloted on 10% of the target population which approximates 38 lecturers in public and private constituent colleges. Before embarking on data collection, the researcher first sought clearance from the university and then sought a research permit from the National Commission for Science, Technology and Innovation (NACOSTI). Data collected was analyzed with the aid of Statistical Package for Social Sciences (SPSS) descriptively and inferentially; and the results were presented in tables. Before analysis, the data was tested ascertain that it meets the various assumptions including tests for sampling adequacy, normality, autocorrelation, multicollinearity and homoscedasticity.

IV. RESEARCH FINDINGS AND DISCUSSIONS

The findings on gender, age bracket and their work experience are presented in Table 1.

Table 1: Demographic Information

Gender	Male	209	72.8%
	Female	78	27.2%
Age Bracket	Between 36 – 45 years	44	15.3%
	Between 46 – 55 years	116	40.4%
	Over 55 years	127	44.3%
Experience	Below 2 years	4	1.4%
	Between 2 - 5 years	27	9.4%
	Between 5 – 10 years	110	38.3%
	Over 10 years	146	50.9%
Total		287	100%

From the findings, 72.8% of the respondents were male and 27.2% were female implying that academic staff in Kenyan universities is dominated by the male gender. As reported by Muia and Oringo (2016), in spite the fact that women in academia have made recent and significant gains, they still comprise a third of the faculty in many institutions and still main remain underrepresented. Further, it was established that 44.3% were over 55 years, 40.4% were between 46 and 55 years while 15.3% were between 36 and 45 years. It therefore implies that a large percentage of academic staff in these universities are approaching the retirement age which may negatively impact valorization of academic research. Similarly, 50.9% of the respondents had over 10 years working experience, 38.3% of the respondents had between 5 to 10 years working experience, 9.4% of the respondents had between 2 to 5 years working experience while 1.4% of the respondents had less than 2 years working experience. Work experience influences the quality and quantity of academic research outputs and therefore, it would be a pointer to valorization of academic research.

4.1 Descriptive Statistics on Employee Involvement System

The descriptive findings in Table 2 had a grand mean of 3.62, indicating a general agreement to the propositions on employee involvement. Further, the respondents agreed that their university treated them with respect and was concerned with their well-being which enabled them concentrate on teaching and research (Mean=3.95, SD=1.001) and that there was an environment of understanding between top managers and academic staff on research activities (Mean=3.69, SD=.949). They also agreed that that their university encouraged their participation in decision-making and problem-solving especially in regards to research work (Mean=3.55, SD=1.026) and that their university encouraged research interaction among its employees through conferences and seminars and follows up on research work that can be converted to add value (Mean=3.93, SD=.839). However, they were unsure whether their university recognized the work they did and the results they achieved in research activities and conversion of research outputs to value (Mean=3.41, SD=.926), whether their university favored autonomy in doing tasks and making decisions which encouraged them to diversify research work (Mean=3.47, SD=.892) or whether their university sought to meet their needs and professional expectations and that staff and their managers enjoyed constant exchange of information in order to perform their duties properly (Mean=3.32, SD=.905).

Table 2: Descriptive Statistics for Employee Involvement System

Statement	Mean	StdDev
My university treats me with respect and is concerned with my well-being thus enabling me concentrate on teaching and research.	3.95	1.001

In my university, there is an environment of understanding between top managers and academic staff on research activities.	3.69	.949
My university recognizes the work I do and the results I achieve in research activities and conversion of research outputs to value.	3.41	.926
Our university favors autonomy in doing tasks and making decisions which encourages me to diversify research work	3.47	.892
My university seeks to meet my needs and professional expectations and employees and their managers enjoy constant exchange of information in order to perform their duties properly.	3.32	.905
My university encourages my participation in decision-making and problem-solving especially in regards to research work	3.55	1.026
My university encourages research interaction through conferences and seminars and follows up on research work that can be converted to add value	3.93	.839

The findings are in agreement with those of Rureri *et al.*, (2017) found that employee involvement practice significantly predicted financial performance. Kisaka *et al.*,(2019) found that involvement significantly influenced employee performance. Tenrisau *et al.*,(2019) found that job involvement significantly influenced job performance. Odero and Makori(2018) found that employee involvement significantly influenced employee performance of part-time lecturers in Kenyan public universities. Involving employees in university decision-making therefore plays a significant role in the level of employee performance and thus universities need to significantly upgrade their involvement systems to meet employee needs.

4.2 Descriptive Statistics on Valorization of Academic Research

The descriptive findings for valorization of academic research are presented in Table 3. The descriptive findings in Table 3 had a grand mean of 2.90 which indicated a level of neutrality/and lack of clarity on the propositions on valorization. From the findings in Table 3, the respondents agreed that that the number of publications undertaken individually or in conjunction with others had increased (Mean=3.55, SD=1.029).

Table 3: Descriptive Statistics for Valorization of Academic Research

Statement	Mean	StdDev
There has been an increase in the number of research and developments agreements signed with research partners	3.28	.836
Licensing income earned from my research activities have increased	2.59	.896
The number of spin-outs annually arising from my research has increased	2.89	.963
The numbers of patents from my research work have increased significantly.	2.54	.922
The number of individual or collaborative publications have increased.	3.55	1.029
Research funding awarded to me on the basis of research ideas have increased	2.80	.897
The number of collaborative research projects have increased	3.03	1.103
The number of contractual agreements with other entities to undertake economic activity together has also increased.	2.87	1.057
The value of material and equipment inflows from my research have increased	2.67	.979
The number of consultancy firms developed or which am directly involved in as a result of research work undertaken has increased	2.85	.876
The number of invention disclosures from my research activities have increased	2.82	.981

However, the respondents were unsure whether in the past 5 years there had been an increase in the number of research and developments agreements signed with research partners (Mean=3.28, SD=.836), whether in the past 5 years the value of material and equipment inflows from their research and had increased (Mean=2.67, SD=.979), whether in the past 5 years that licensing income earned from their research activities within the university had increased (Mean=2.59, SD=.896), whether the number of spin-outs formed annually arising from their research had also been increasing steadily (Mean=2.89, SD=.963), whether the numbers of patents generated from their research work had been increasing significantly(Mean=2.54, SD=.922), whether research funding awarded to them on the basis of research ideas and projects had been increasing (Mean=2.80, SD=.897), whether the number of collaborative research projects undertaken with other

agencies had increased (Mean=3.03, SD=1.103), whether the number of contractual agreements with other entities to undertake economic activity together had also increased (Mean=2.87, SD=1.057), whether the number of consultancy firms developed or which are directly involved in as a result of research work undertaken had increased (Mean=2.85, SD=.876) and whether the number of invention disclosures arising from their research activities have also increased (Mean=2.82, SD=.981). The findings mirror those of Cleton (2015) who noted that despite the fact that nearly all universities carry out technology transfer activities, the distribution of successful valorization is highly skewed among universities. Similar results by Singh and Kassa (2016) suggested that universities need to develop and domesticate research output indicators in order to increase academic staff performance. The findings also mirror those of Kendagor (2018) who opined that universities and other stakeholders should identify other ways of dissemination research outputs other than publications.

4.3 Regression Analysis

The model summary findings of the univariate regression between valorization of academic research and employee involvement system are presented in Table 4.

Table 4: Model Summary

Indicator	Coefficient
R	.534
R Square	.285
Adjusted R Square	.282
Standard Error of the Estimate	.58662
Durbin-Watson	1.592

The correlation results in show that employee involvement system (R=.534) had a moderately strong and positively correlation with valorization of academic research in universities in Kenya. This finding implies that an increase in the level of employee involvement system in universities in Kenya would lead to an increase in the level of valorization of academic research. The findings mirror those of Wambua and Karanja (2016) who found that employee involvement positively correlated with employee performance. From the findings in Table 4, the R-square value of 0.285 indicates that employee involvement system explains 28.5% of variation in valorization of academic research in universities in Kenya. Table 5 shows the ANOVA findings.

Table 5: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	39.068	1	39.068	113.530	.000 ^b
	Residual	98.046	285	.344		
	Total	137.144	286			

The ANOVA findings in Table 5 indicated a statistically significant model (F= 113.530, p=.000). The regression coefficients are presented in Table 6.

Table 6: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics		
	B	Std. Error	Beta			Tolerance	VIF	
	1	(Constant)	.948			.186		5.090
	Employee Involvement System	.535	.050	.534	10.655	.000		

From the findings in Table 5, it was established that employee involvement system significantly influenced valorization of academic research (B=.535, p=.000). This implied that one-unit increase in the level of employee involvement system would lead to an increase of 0.535 units in valorization of academic research. Further, using the regression coefficients, the specific model was developed as:

$$\text{Valorization of Academic Research} = 0.948 + 0.535\text{Employee Involvement System}$$

The null hypothesis that stated that: **H₀₁**: *Employee involvement system has no significant influence on valorization of academic research in universities in Kenya*, was therefore rejected since employee involvement system (t= 10.655, p= .000<.05) was a significant predictor. The study therefore concluded that employee involvement system had significant influence on valorization of academic research in universities in Kenya.

V. CONCLUSIONS

The study concluded that employee involvement system had a moderately strong and positive correlation with valorization of academic research. Employee involvement system therefore significantly influenced valorization of academic research. From the regression analysis, it was established that employee involvement system positively and significantly influenced valorization of academic research. The study recommends the need for universities in Kenya to enhance some elements of academic staff involvement. Specifically, it is recommended that universities should ensure enhanced academic staff well-being, create an environment of understanding between university managers and academic staff on research activities, develop mechanisms for academic staff recognition on conversion of research outputs to value, institute mechanisms for follow-ups on research outputs and their valorization and finally, universities should encourage participation of academic staff in decision-making and problem-solving regarding valorization of academic research. The practical implication of the findings is that strengthening of employee involvement system would significantly enhance academic staff ownership of university valorization processes.

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