

## MOTIVATING FACTORS FOR ACADEMIC STAFF TO CONDUCT AND INCREASE RESEARCH OUTPUT AT A UNIVERSITY

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### ABSTRACT

The objective of this paper was to assess the effect of motivation on academic staff ability to conduct and increase research output in a University. A quantitative research design was used and data collected using a questionnaire. A random sampling technique was used to select a sample of 36 AJUCO staff. Data analysis was conducted using a multiple regression model. Two hypotheses were tested; one was accepted at the 1% and other at the 10% levels. The findings suggested that staff qualification, research experience, rewards and promotions, and training and development were the main factors of motivation. The adjusted R square ( $R^2$ ) statistic was .731 showing an overall model fit of 73.1%. The overall F statistic of 5.623 indicated the significance of regression analysis with a DW of 1.683 showing no serial correlation in variables. Then it was recommended that the university should, by all means, improve staff qualifications and at the same time, hire qualified staff with research skills in order to improve its research output.

**Keywords:** Motivating factors, Academic staff, Research productivity, Qualification, research output, University.

### 1.0 INTRODUCTION

Motivation is a person's desire to act usually for a reason to achieve a goal. The ingredients of motivation are within institution and are the internalized drive toward the dominant thought of staff performance (**Sekhar et al., 2013**). Motivation directly empowers staff to perform by being a catalyser for all employees working for the institution, to enhance their working abilities and to complete task in much better way than they used to do (**Evans, 1986**). University works because of people working for it, and each individual contributes toward achieving the ultimate goal of the institution (**Yousaf et al., 2014**). Factors affecting staff motivation such as financial rewards should and others should be explored to the maximum to stimulate employee performance **Chaudhary and Sharma, 2012**). It is the responsibility of management to motivate their employees to work according to the expectation to enhance the institution's performance. **Dysvik and Kuvaas (2010)** noted that intrinsic motivation has been the strongest predictor of turnover intention and relationship between management and staff. The mastery-approach goals and turnover intention was only positive for employees to some extent, but lower in intrinsic motivation. The only thing university should do is to give employees with ample resources and platform to perform. **Kuo (2013)**, said a successful institution needs to combine the strengths and motivations of

internal employees by responding to external changes and demands promptly to show the institution's value. Extrinsic motivation creates a significant interaction between job stress, flex time, and residence (**Sekhar et al., 2013**). It is well known that at the heart of every productive business there is a culture of work where employees collaborate positively to produce good results (**Gignac and Palmer 2011**).

Universities as academic institutions have constantly served as feeder institutions in the overall development of the nations through scientific research (**Chepkorir, 2018**). This has been the reason national governments and organizations have invested huge amounts of money in the development of research in universities (**Biesta at al., 2011**). Some countries rank higher education institutions according to their research performance (**Williams and Van Dyke, 2008**). Academic staff in a university are key research resource and account for a lion share of the budget of a university. This follows an important role they should play in achieving the objectives of the institution (**Frantz et al., 2010**). University's research output plays a critical role by being the most significant indicator of academic staff productivity (**Vieira et al., 2010; Zarah, 2019**). Research output attainment is determined by the number of published articles in refereed journals and conference proceedings of high reputation (**Chepkorir, 2018**).

In this way, academic staff should be well motivated to perform this task. When they are well-motivated, they can build a reputation for the institution and for themselves through research (**Evans, 1986**). Such a profile may have a significant impact on the ability of the university to attract more students locally and internationally, including research funds and consultancy contracts. To achieve this challenge, management should try various ways and approaches to motivate academic staff with the aim of improving their research performance and output (**Vieira et al., 2010**). The main purpose of this paper was to examine the importance of motivating academic staff to conduct research. The intention is to provide a better understanding of why motivation to conduct research at the different levels of academics is important. This paper will assist other researchers, readers and institutions at large in providing them with a wider perspective portrayal of the literature on motivation from the different dimensions.

## 2.0 THE PROBLEM

Research conducted by universities can sometimes seem detached from students' educational experiences. The fact the matter is that university research has a profound positive impact on students' lives, even if they do not realise it. More often universities are keen to talk about their research outputs, especially if they are highly ranked in the area, or are carrying out high-profile studies. In fact, current and past research work are often prominent on universities' website homepages (**Chepkorir, 2018**). Considerable misunderstanding about the role research plays at educational institutions has been something of the past. Academic staff should not be seen as distracted people who are not making efficient use of resources meant for teaching students. Certainly not, research actually has a direct impact on the quality of teaching students (**Zarah, 2019**). Staff involved in university research will have valuable insight into their subject area, gained from active participation in the field. In fact, being at cutting edge of research in a particular subject can filter through to students, because they

will also benefit from having such up-to-date knowledge in their subject matter (**Homden, 2017**).

Therefore, there is no need to wait for improved state-of-the-art-facilities such improved libraries, better laboratories and special equipment in order to conduct research. The only thing is that staff should be motivated to engage in research, because it is very important for a university. These are expectations in some countries where universities receive grants and funding from governments and businesses to ensure they can properly invest in what is needed for their research (**Chen et al., 2006**). Often these facilities are made available to students, to enriching their studies (**Homden, 2017; Zarah, 2019**). Motivation of staff to conduct research is the greatest ingredient to achieving expected results. Although there are various factors that may affect motivational levels, what matters is to find the relevant approach to staff motivation (**Chaudhary and Sharma, 2012**).

## 2.1 OBJECTIVES AND RESEARCH QUESTIONS

The main objective of this paper was to examine how different elements of motivation can assist academic staff to conduct research for increased output. Specifically:

- (1) To examine the condition of motivation in the our university;
- (2) To ascertain the influences and outcomes of motivation on staff performance; and
- (3) To explore the extent to which motivation has been able to meet employee prospect.

The following two research questions were formulated, namely:

- (a) How the intrinsic and extrinsic motivational factors impact on staff performance?
- (b) How can the working environment be suitable place that impacts staff performance?

## 3.0 REVIEW OF RELEVANT STUDIES

From the literature point of view, the term motivation have been defined in different ways. In this paper, the term motivation as it relates to modern business environment was considered. Following **Yousaf et al., (2014)**, the term "motivation" has its origin from the Latin word "movere", which implies "to move" through the institution. The description in the dictionary suggests that motivation begins with a motive to do something or to act. For **Tan and Waheed (2011)**, motivation is the internal force guiding individual to achieve something. Although motivation can make a person to act, another person can make someone else motivated (**Burton, 2012**). Managers who seek the answers will often look to motivation theory for assistance (**Evans, 1986; Chaudhary and Sharma, 2012**). Motivation is an attribute that awakens people to act or not to act on issues (**Casper and Harris, 2008**). It strengthens the relationship between work-life benefits and attachment to institution. Researchers have contrasting opinion about intrinsic motivation and extrinsic motivation (**Deci et al., 1999**). Intrinsic motivation is defined by **Ryan and Deci (2000)** as the activities done for its inherent satisfaction rather than separable consequences. An intrinsically motivated or self-motivated person takes up challenges by himself and achieves the desired results without any external pressure or coercion. Extrinsic motivation is construed as an activity done exclusively for the purpose of obtaining reward or non-attached outcome. It differs from intrinsic motivation where the *activities* are carried out for sheer happiness and out of passion for job (**Omollo and Oloko 2015**). The description of motivation in relation with employee performance can simply be defined as the factors, elements, or eagerness

which urge employee to pursue and accomplish job goals and tasks and be the reason why employee act and behave in a certain way which could be influenced (**Heathfield, 2015**).

Motivation is about giving your staff the right mixture of guidance, direction, resources and rewards so that they are inspired and keen to work in the way that managers expects from employees (**Nabi et al., (2017)**). There is a significant relationship between staff qualifications and motivation to conduct research (**Chepkorir, 2018**). **Frantaz et al (2010)** found that motivation of highly qualified staff generally at PhD level, can result in more university research output. **Owolabi and Olugbenga (2012)**, reveal that students taught by teachers with higher qualifications were well motivated to perform better in English Language than those taught by teachers with lower qualifications. Responding to a question on "What can we do to motivate scientific research in the academic environment" **Kumar (2014)** responded that research is a matter of academic environment itself, where staff are made aware of it as an important aspect of teaching and learning. Although some academics may have research experience, they may not be having temperament for research, in such situation, they should be motivated to conduct research, which should be made compulsory as a university activity.

An institution has the means to reward, recognise and promote its staff through different motivation approaches to achieve maximum performance (**Stella, 2008**). These motivation means are important tools management can use to directly motivate staff, because they include all components in the institution; which include decision making activities involved in allocating benefits and compensation (**Prateepkanth, 2011**). Rewards and promotions provide an organised system that has positive consequences. Every staff member tries to perform well when exposed to rewards (**Bao and Nizam, 2015**). Work related performance is often enhanced through rewards and recognitions (**Ibrar and Khan, 2015**). Both rewards, recognition, and promotions can be expressed in the form of recognition, incentive and pay (**Boa and Nizam, 2015**). Training and development have positive effect in encouraging growth of the academic staff and that of the institution (**Yousaf, 2014**). Generally, training and development assists in acquiring more knowledge base needed to perform well in the situation (**Danish and Usman, 2010**). Monetary rewards can be a powerful determinant of staff motivation and achievement which, in turn, can advance to important returns in terms of level of performance in the institution (**Aguinis et al. 2013**). However, staff are not motivated solely by money but also by their behaviors which are linked to managers' attitudes.

Managers should create a conducive environment in which staff feel trusted and motivated to perform (**Danish and Usman, 2010**). Performance is a function of individual motivation, based on institutional policy, strategy, culture and the level of motivation (**Smith and Rupp, 2003**). The staff through rewards, monetary incentives, and other benefits has resulted in increased organisational performance. The more staff members are motivated to work hard and achieve, the more they will be committed to their institutions (**Orpen, 1999; Yuan and Woodman, 2010**). Managers motivate staff to work following a participative design which makes them responsible for performance (**Decoene and Bruggeman, 2006**). A dynamic managerial learning framework is required to enhance performance in order to meet institutional challenges (**Garg and Rastogi, 2006**). Motivation helps to share knowledge through an intra-organizational social media platform which can help the organization to reach its goals and objectives (**Vuori and Okkonen, 2012**). Research productivity in particular has received a great amount of attention and concern (**Homden, 2017**). From a

very distinguishing part of the definitional character of a university, a lack of motivation has serious negative consequences on institutional workforce and its productivity (**Chen et al., 2006**).

## 4.0 METHODOLOGY AND DATA

A quantitative research design approach was used in order to achieve the objectives of the study. Both qualitative and quantitative methods were used in answering the research questions (**Creswell, 2003**). Based on the nature of the investigation, a random sampling technique was utilised to get the study sample (**Creswell, 2003**). The target population consisted of academic staff from the Archbishop James University College (AJUCO), a Constituent College of Saint Augustive University of Tanzania, in Songea. It is the only higher education institution in the region, a full-time studies institution producing wide range of undergraduate degrees including Masters of Arts in Education. Primary data were collected using a questionnaire, and interviews conducted with participating staff in December 2018. A total of 53 questionnaires were randomly distributed to participants to complete, and only 36 questionnaires were returned, representing a response rate of about 68%, which was reasonably adequate. The data items were analysed using a multiple regression model (**Ramosacaj et al., 2015**). In attempting to give an answer to the following research question: "Which motivational factors that may impact positively on academic staff ability to conduct research?"; the following hypotheses were formulated:

H1: There is a positive relationship between motivation and academic staff qualifications, research experience, recognition and rewards and training and development.

H2: A conducive work environment helps staff to devote more time to university business by Reducing their involvement in other activities.

**Table 1: Motivation measuring variables<sup>3</sup>**

Items	Important variables
Qualification	Highest degree (PhD)
Teaching experience	More than five years (at least)
Research experience	Being exposed to conducting research
Business environment	Conducive environment
Rewards and promotions	Incentives Payments Recognition
Employee performance	Work quality Level of commitment Initiative Efficiency
Training and development	Advanced degree training Management training Other skill raining

<sup>3</sup>Qualification, teaching experience, research experience, business environment, rewards & promotions, training & development, and level of commitment impact on staff performance.



## 4.1 THE MODEL

The point in formulating a model is to possibly explain the change in the dependent variable through the independent variables. The study model follows **Nguyen and Luu (2013)** and **Brown and Lee (2015)** logit model. For many economic goods and services, the individual choice is discrete, while the traditional demand theory could be modified to suit such choice (**Nguyen et al., 2015**). A model to determine a discrete choice such as whether an academic staff would like to conduct research or not, is a qualitative choice model. If the random term is a logistic distribution, then the decision to conduct or not to conduct research, is a standard binary logit model. But if the random term is assumed to be normally distributed, then the model becomes a binary probit model (**Uzunoz and Akcay, 2012**). The logit model is used to determine the impact of motivation on academic staff behavior in terms of research. The dependent variable of the model "motivation impact", "Impact or not Impact" is a binary, and as a result the logistic estimation is followed. The logit model was used because of its simplicity in modeling the data (**Brown and Lee, 2015**). Since the outcome variables are discrete, the model was estimated using the probit regression to model dichotomous or binary outcome variables (**Uzunoz and Akcay, 2012**). The analysis provides statistically significant findings for increase or decrease in the probability of the activity, and it is estimated using the maximum likelihood method (**Williams and Wang, 2012**). To generalise the logit model to several explanatory variables we require a linear predictor that is a function of several regressors. For the logit model this view can be expressed following equation 1 below:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \epsilon_i \quad (1)$$

Where: Y is dependent variable,  $\beta_0$  is a constant,  $X_i$ 's are independent variables.

The discrete dependent variable, "motivation impact" is based on the reaction from staff to the following question: "In your opinion, what impacts your ability to conduct research at the university?" In search for an answer, we found that factors such as qualification, teaching experience, research experience, business environment, promotions and rewards, training and development, and level of commitment by university impact on staff performance. To test the hypothesis one, independent variables were used, and hypothesis 2 was tested using work environment variable. This resulted in the following probit model as expressed in equation 2:

$$\text{Motivation (Impact)} = \beta_0 + \beta_1 \text{qualification} + \beta_2 \text{teaching experience} + \beta_3 \text{research experience} + \beta_4 \text{work environment} + \beta_5 \text{promotions \& rewards} + \beta_6 \text{further training \& development} + \beta_7 \text{level of commitment} + \epsilon_i \quad (2)$$

## 5.0 RESULTS AND DISCUSSIONS

### 5.1 RESULTS

The study sample was constituted of 53% male and 47% female staff. The majority of the respondents (96%) have Master degrees, 100% have teaching experience, about 87% have no research experience, almost 100% considered work environment to be not conducive, about 99% have never been promoted and rewarded, about 45% are in further training and development, and 100% consider have no consideration on the level of commitment by the

university. Table 2 presents the summary of coefficients of the predictors of the logit regression model.

**Table 2: Model fitness summary<sup>3</sup>**

Study Model	Correlation Coeff. R	Coeff of determi nation R <sup>2</sup>	Adjusted Coeff of determin. R <sup>-2</sup>	Std Error of the Estimate SE	T – Test T	F-Test F	DW
1	.604	.812	.731	.2398745 13557	3.744	5.623	1.683

<sup>2</sup> Qualification, teaching experience, research experience, work environment, promotions & rewards, training & development, and level of commitment impact on staff performance.

<sup>3</sup> Dependent Variable: (Motivation)

For a regression analysis model to be considered of good fit, the value of its adjusted R-square should be more than or equal to 60% (Zygmunt and Smith, 2014). The adjusted coefficient of determination is the adjusted value of the coefficient of determination in which the number of variables of the data set is taken into consideration. It determines the fitting of the multiple regression equation for the sample data. From table 2, we observe that the value of the adjusted coefficient of determination R<sup>-2</sup> statistic was .731 or 73.1% fit. Statistically, it explains the percentage of variation of the independent variables that affect the dependent variable of the model. That is, about 73.1% in motivation effects (research performance) can be explained by independent variables of the model. The Durbin Watson (DW) statistic is a test statistic used to detect the presence of autocorrelation (serial correlation) in the residuals (prediction errors) from a regression analysis (Kenton, 2019). The DW statistic ranges in value from 0 to 4. A value near 2 indicates that there is no autocorrelation in the variables (Kenton, 2019). The DW statistic value of 1.683 in this paper suggests non-autocorrelation in variables of the model.

**Table 3: Coefficients of dependent variables<sup>3</sup>**

Model	Unstandardised Coefficients		Standardised Coefficients Beta	T	Sign	Collinearity Statistics	
	B	St E				Tolerance	VIF
Constant	-.990 (46.316)	.239	-	-4.145	.000	-	-
Qualification (Degree)	-.811	.328	.539	-.338	.000	.197	.287
Teaching Experience	1.050	.352	-.028	-.081	.000	-.421	.211
Research Experience	-.701	.097	.820	-.770	.000	-.701	.097

Work environment	-.673	.088	-.278	-.148	.000	.247	.369
Recognition & rewards	1.303	.088	.959	-5.075	.000	.281	3.554
Training & development	.648	.091	.546	4.314	.000	.456	2.195
Commitment by university	-.749	.137	-.018	-.008	.000	.179	3.573

<sup>3</sup>Constant, qualification, teaching experience, research experience, work environment, promotions & rewards, training & development, and level of commitment by university

From the results of regression analysis, the following empirical equation was obtained:

$$Y = 46.316 + 0.539X_1 + 0.820X_3 - 0.278X_4 + 0.959X_5 + 0.546X_6 \quad (3)$$

The model makes sense in the following ways:

- (a) A constant of 46.316 implies that, if the impact of motivation is maintained, research performance could be increased by at least 46%.
- (b) Qualification variable X<sub>1</sub> coefficient of 0.539 suggests that motivation of academic staff with high qualifications can be followed by an increase in research output of about 54%.
- (c). Research experience variable X<sub>3</sub> coefficient of 0.820, indicates that when academic staff with research experience are motivated, it may lead to 82% increase in research output.
- (d). While work environment is seen as everything that is in the institution which can directly or indirectly affect staff in carrying out their activities. Work environment variable X<sub>4</sub> coefficient of -0.278 is less conducive. It shows the extent to which academic staff are not able to perform well their activities. Overall, with an increase of 1% score for the work environment will lead to a decrease in the staff's performance of about 28%.
- (e) Promotions and rewards variable X<sub>5</sub> coefficient of 0.959 indicates that motivation will have a strong positive impact on academic staff. That is, by promoting and rewarding staff can lead to an increase in performance of about 96% productivity.
- (f) Training and development variable X<sub>6</sub> coefficient of 0.546 shows that a well implemented and coordinated training and development will affect staff research performance by 55%.

As predicted, positive and significant motivational effects were expected between variables qualification, training and development, research experience, and recognition and rewards with research performance by staff. Their Beta coefficients were .539; .546; .820; and .959; and were all positive and significant at the p value of 0.000 (< .05) and (< .01) respectively. In other words, motivation directed to these variables would have positive effects on research performance of academic staff. This finding supports hypothesis 1 and it is consistent with previous studies (**Tahir et al., 2014; Bao and Nizam, 2015**). Work environment is Everything that is in the institution which can directly or indirectly affect staff carries out their activities (**Muchtar, 2016**). The Beta coefficient for work environment was -.278 with a partial t = -.148 which was significant at the p value 0.000 (<.10). This finding supports hypothesis 2 by suggesting that the university working environment has less significant effect



on employee performance. This finding contradicts the finding of **Muchtar (2016)** who observed that the working environment positively affects the performance of the staff. Overall, the results of multiple linear regression analysis in this paper indicate that the value F was 5.623 and  $p = 0.000$  ( $p < 0.05$ ), it suggests that by motivating academic staff in a way of this paper, will have positive effects on research performance of academic staff at the University.

## 5.2 DISCUSSION

In line with the results of analysis, it can be argued that motivation has significant effects on academic research performance. The partial result of correlation coefficient of 0.604 indicates an effective contribution of motivation to academic performance of 60%. Partially motivation effects do affect the performance of staff because the gain is significantly greater than 0.05. As previously mentioned, the effects of motivation on both qualification, research experience, promotions and rewards and training and development will have a significant impact on academic staff research performance of about 54%, 82%, 96%, and 55% respectively. While work environment is everything that directly or indirectly affect staff in carrying out their activities, work environment coefficient of -0.278 suggests that it is less conducive for staff to carry out their activities. Overall, this means that an effective contribution to work environment on the performance of employees is less than 27%. Hence, with an increase of 1% score for the work environment will lead to a decrease in the employee's performance of about 28%. Work environment suggests the extent to which academic staff are not able to perform well their activities. This shows a lack of motivation that often results in low level of employee performance. By keeping on motivating staff to work will produce the maximum needed performance. This is consistent with **Nabi et al., (2017)** who argue that motivation is one of the factors that may affect employees behaviors. Besides motivation, work environment may also affects the performance of employee in other ways by being an energizer (**Burton, 2012**). This shows that with a good working environment, better performance results can be obtained as a result of a conducive and exciting working environment. This is consistent with **Muchtar (2016)** who argued that a work environment should be an appropriate place for staff to carry out their activities in an optimal, healthy, safe, and comfortable ways.

## 6.0 CONCLUSION AND SUGGESTIONS

### 6.1 CONCLUSION

Universities as academic institutions have constantly served as feeder institutions in the overall development of the nations through scientific research (**Uzoka, 2008**). Some countries rank higher education institutions according to their research performance (**Williams and Van Dyke, 2008**). Academic staff in a university are the key research resource. As a result they account for a lion share of the budget of a university, given an important role they play in achieving the objectives of the institution (**Uzoka, 2008**). Research output plays a critical role by being the most significant indicator of academic staff productivity (**Munn, 2008; Vieira et al., 2010**). The attainment of research output is determined by the number of published articles in refereed journals and conference proceedings of high reputation (**Chepkorir, 2018**). This paper aimed at examining the motivational factors that may impact

positively on academic staff research productivity. From the results of regression analysis it can be concluded that, motivation has, indeed, positive and significant influential effects on staff qualification, training and development, research experience, and recognition and rewards with research performance. The Beta coefficients for these variables were .539; .546; .820; and .959; and were all positive and significant at the p value of 0.000 ( $< .05$ ) and ( $< .01$ ) respectively. In other words, targeting these variables, motivation would have positive effects on increasing research performance of academic staff (**Tahir et al., 2014; Bao and Nizam, 2015**). The Beta coefficient of work environment of -.278 was less significant at the p value 0.000 ( $< .10$ ). It suggests that the university working environment has less significant effect on employee performance (**Muchtar (2016)**). Finally, the overall value of F statistic for multiple linear regression analysis of 5.623 was significant at the  $p = 0.000$  ( $p < 0.05$ ), suggesting that motivation has indeed positive effects on research performance of academic staff.

## 6.2 SUGGESTIONS

Based on the results of multiple of regression analysis, there is an indication that academic staff needs to be motivated to perform well. Hence, the following suggestions:

1. Management should pay more attention to employee motivation because it is a stimulant that improves staff performance.
2. University should improve staff qualifications and should try, by all means, to hire highly qualified staff with research experience in order to improve its research output.
3. Research capacity building workshops should be often organized for staff without research experience, in order to increase their understanding of the research processes.
4. It is also very important to workshop academic staff on writing for publication in peer reviewed journals as it is an important skill for publication.
5. Work environment at the university should be made conducive and attractive for staff to perform their activities to the fullest satisfaction.

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