

# Predictors of Academic Staff Retention: A Case Study of Academic Staff at Makerere University

Waigolo David  
Kampala University

**Abstract:-** The main objective of the study was to investigate factors associated with retention in service among staff at Makerere University- Uganda. The study used secondary data of administrative records on 1500 academic staff at Makerere university recruited in the period (2000-2017). The epoch of retention at Makerere University was estimated from date of first appointment to date of exit i.e. resigning or absconding. A time to event approach using the log-rank and a cox proportional hazard model was adopted in the investigation.

The probability distribution of retention in service of 4.56 years (range; 0.22-23.32) obtained from the results suggests a high turn-over of academic staff at Makerere university. In the multivariable assessment, low retention in service was noted among young academic staff, those at lower ranks of assistant lecturers and teaching assistants and those with high academic qualification at recruitment. In light of these results, there is necessity to put in place measures in retaining staff at lower academic qualification than primarily focusing on academic staff with doctorates.

**Keywords:** *Academic Staff Retention, Predictors, Makerere University,*

## I. INTRODUCTION

### A. Background to the study

For any organization to thrive, retaining and maintaining of staff is essential. Staff is considered a valuable asset in an organization (Harting, 2010; Tetty, 2010). Undesirable employee turnover is associated with not only a cost of recruitment and training new starters, but also creates an additional burden on remaining staff.

The ability to retain lecturers in Ugandan Universities has been recognized in literature to a combination of factors comprising, however, not limited to: (i) Benefits (Rolfe, Stevens and Weale, 2005; Muceke, Iravo and Namusonge, 2012, Giles, 2004; Ssesanga and Gorret, 2004) (ii) Social demographic characteristics of teaching staff (e.g Luekens, Lyter and fox, 2004; Roessler, 2002), (iii) academic – qualification (Mamdani 2007). Likewise, motivators such as positive rewards play a critical role in enhancing employee intention to stay (Giles, 2004)

Makerere university which started way back in 1922 as a technical school and is the largest with the highest student and lecturers enrolment figures (NCHE 2015), had a total of 1327 teaching staff by 2016 (Makerere university, 2014) is not exceptional with regards to employee turn-over, recruiting and retaining staff at the university was regarded as a challenge according to Makerere University 2014 annual report (Makerere university, 2014 and Kajubi 1990)

Evidence by Ssesanga and Garret (2005), Xiaoyang (2004) as well as Shicherman (2005) does not reveal otherwise with regards to job retention at the university particularly, these studies reveal a setback with regards to job retention among the teaching staff. This evidence does not argue well with the university's vision of being a leading institution for academic excellence and innovations in Africa. In other words, the university's excellence would largely depend upon the people it's able to enlist and retain in its academic units. Persistence of this situation is certainly likely to affect the learning outcomes (NCHE, 2014)

### B. Problem statement

Much as majority of African universities are striving to become leading institutions for academic excellence and innovation in Africa, attraction and retention of committed staff is still a challenge as evidenced in the Makerere university annual report (2008). Persistence of this situation is likely to cause, the following among other aspects: affect quality of learning, and consequently affect the learning outcomes (NCHE, 2004). The extent of this situation with regard to academic staff at the university remains unknown and unanswered.

Recent studies on related aspects have addressed mean intentions to stay in service (Amutuhaire, 2011). However, hardly any assessment has been done to provide precise estimates of retention in service and its pattern by staff characteristics though an attempt to provide estimates of service in the university was done by Amutuhaire (2010), the investigations were limited with regard to scope and coverage; his study was not only conducted among academic staff in education, agriculture and engineering faculties but also included non – academic staff. Thus, Amutuhaire's conclusions of his study could not be generalized for the academic staff retention for the whole university. This leaves a lot of aspects unanswered with regard to staff retention and

pattern among academic staff at Makerere University in general.

**C. Theoretical and conceptual frame work**

The study was based on the equity theory (Adams, 1963). According to this theory, lecturers are expected to have their own opinions that affect their work. The theory further postulates that lecturers develop a rational ratio of the inputs to the job and their outputs from the same job. These inputs are considered as efforts, loyalties, hard-work, commitment, skills, abilities, adaptability, flexibility, tolerance and determination. The outputs are defined as financial rewards, training, benefits, promotion and others. The equity theory proposes that lecturers feel it is fair if the exchange of output is seen to be as equal as the input. If the lecturer’s outputs are less than inputs, it would imply under payment thus, the chances of exiting increase. In applying the theory, the frame work in figure 1 below was developed to indicate the conceptualization of the variables under study.

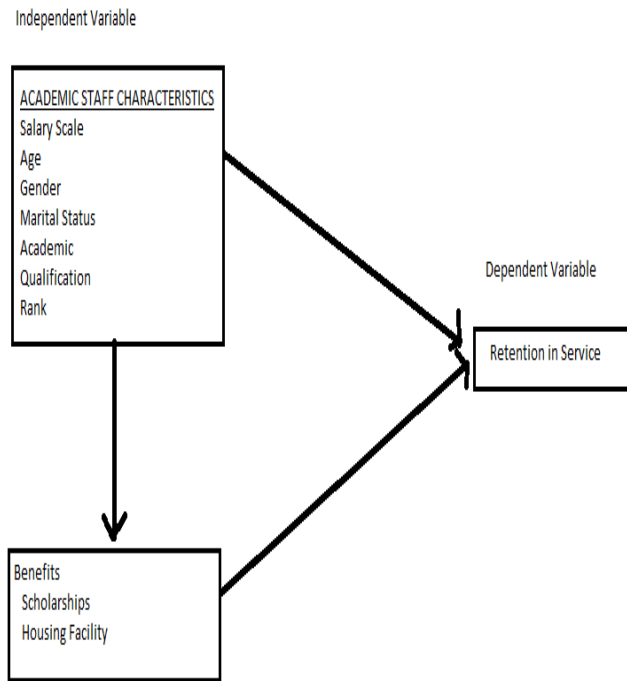


Fig 1 Theoretical and conceptual frame work

**D. Conceptualization of factors associated with retention in service**

The frame work postulates that academic staff characteristics and benefits directly affect retention in service. Retention in service was defined as time taken in service by lecturers at Makerere University. Academic staff characteristics were defined as, salary scale, age, gender, marital status, academic qualification and rank while benefits were taken as scholarship and housing facility. It was conceptualized that staff with higher academic qualifications and rank are more likely to be of old age and with a higher

salary scale. More still those with higher ranks were more likely to get a housing facility.

**II. METHODOLOGY**

**A. Data Source:**

The study was carried out among the academic staff at Makerere University. By 2015, Makerere university had a total of 1,725 teaching staff of which 382 were female (Makerere-university report, 2015).

Administrative data was retrieved from the integrated tertiary system (ITS), the information system used by the university at the time of data collection. Particularly, the data was obtained from the sub-system of HURIS and FINIS. Information at recruitment was obtained on age, gender, salary scale, academic qualification, marital status and rank. Information on whether the academic staff had ever got a scholarship or had a housing facility was not available thus, the variables were not included in the assessment. Salary scale was also not included in the assessment as it gave the same information as academic staff’s rank.

This information was got on academic staff joining between 1<sup>st</sup> January 2000 and 1<sup>st</sup> January 2017. Some of these academic staff either resigned or absconded. This was a 17 years follow up of academic staff at the university. Those who joined the university before 1<sup>st</sup> January 2000 were not considered for analysis since their exit could have been influenced by unavoidable circumstances. Those staying beyond 1<sup>st</sup> January 2017 were taken as censored observations.

**B. Data Analysis**

Analysis of data was done in three stages. First, each variable in a data set was explored separately. Frequency tables and summary statistics were obtained to show the distribution of each potential predictor. Retention in service at Makerere University was tested to the Shapiro-wilk test for non-normality (Shapiro and Wilk 1965). At the second stage, the log-rank was used to test for equality across different categories of potential predictor’s in service. For retention in service, Kaplan-Meier functions were used to provide insight into the shape of retention function for each group and to give an idea of whether or not the groups were proportional or not proportional. Test of equality using log-rank were performed to compare retention distribution of different categories of the variables in the study.

Finally, Cox proportional hazards regression analysis was used to examine the rate of exit of service at Makerere University. Since retention in service or time in service was not normally distributed and observations were censored. The model employed was;

$$H(t) = h_0(t) \exp(\beta_1 x_1 + \dots + \beta_p x_p) \dots \dots \dots (1)$$

Where

$X; i = 1, 2, 3, 4, 5, 6, 7, 8, \dots, p$  are the covariates and  $\beta_{1x_2} + \dots + \beta_p x_p$  are the coefficients,  $h_0(t)$  was the baseline hazard which depends only on time of stay at the university and  $h(t)$  was the hazard function. This model was based on the assumption of proportionality.

The assumption of proportionality was achieved, thus Cox proportional hazard model is used to study the rate at which staff exits service at Makerere University. The dependent variable was taken as time to exit and the covariates were age, gender, academic qualification, rank and marital status. Schoenfeld and scaled Schoenfeld residuals using log-log plots were used to test proportionality. All variables i.e

rank, gender, marital status, academic qualification and age were proportional.

The observed data was evaluated using Cox-Snell residuals. The cumulative hazard function followed the 45° mark; thus, it was concluded that the Cox model fitted the data very well.

### III. DISCUSSION OF RESULTS

The rate of exodus of Makerere academic staff was computed using a cox model. The table below shows Cox regression estimates of the rate at which Makerere Academic staff leaves teaching service.

Table 1: Rate of leaving of academic staff

RANK	VARIABLE	B	HR	P.VALUE
RANK	Ass. Professor and above <sup>+</sup>	1		
	Senior Lecturer			
	Lecturer			
	Ass. Lecturer			
	Teaching assistant			
SEX	Male <sup>+</sup>	1		
	Female	0.012	1.012	0.181
MARITAL STATUS	Married <sup>+</sup>	1		
	Not Married	-0.235	0.791	0.144
ACADEMIC QUALIFICATION	Doctor of philosophy <sup>+</sup>	1		
	Masters	-0.184	0.832	0.168
	Bachelors	-0.390	0.677	0.270
OLDNESS	40 years and above	1		
	33 – 39 years	0.492	1.635	0.402
	29 – 32 years	0.836	2.308	0.609
	Below 29 years	2.480	11.941	0.054

According to the table 1 above, it was found out that the Cox model fitted the data very well. The probability of the Chi-square of the log likelihood is significant (P<0.001).

There was a positive relationship between rank and retention in service (P<0.001). Academic staff at the levels of senior lecturer, lecturer, assistant lecturer and teaching assistants compared with the academic staff at the levels of associate professor and professor had higher chances of parting the university service.

Academic qualification was found to be significant (p< 0.05). Academic staff with bachelor’s degree was less likely to leave university service (p<0.001). Thus, increase in one’s academic qualification, increases the rate of leaving the university.

It was found out that there was a positive (p<0.05) relationship between oldness and retention in service. It was revealed that older academic staff at Makerere University had lower rate of leaving university service compared to the young ones. Thus, increasing age, increases retention in service at Makerere University. Gender, marital status was found to have no significant effect with retention in service at Makerere University.

#### A. Regression Analysis

Three regression tests were done. First, the proportionality tests of the hazards using the schoefeld and scaled schoefeld residuals and log-logistics plots were satisfied since the variable in violated the proportionality assumption of the cox model. Second, the Log-Log hazard function was well specified which was predicted by the Hat-statistic (hat: P< 0.05)

### B. Specification error of the link Function

Table 2 Specification error of the link Function

Log Hazard Function	Coefficient	Std error	P. value
Hat	1.4861	0.4002	0.000
Hatsq	-0.1316	0.1055	0.212

Thirdly, the observation of values of goodness of fit was evaluated using the Cox-snell residuals.

## IV. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The major objective of the study was to establish factors associated with retention in service among academic staff at Makerere University in Uganda. The results are summarized as follows –

Academic staff retention in service at Makerere University increases with higher rank. Academic staff with bachelors and or masters' had low rates of leaving university service compared to those with Doctor of Philosophy. With respect to age, increasing academic staff's age at recruitment increases retention in service at Makerere University. On the contrary, gender, marital status did not have significant associations with retention in service at the university. In other words, retention in service of academic staff at Makerere University did not vary significantly by these variables.

### A. Conclusion

From the above findings, the following conclusions were made in line with the hypothesis of the study. The rank, oldness and academic qualification of academic staff at recruitment has significant effect on retention in service at the university. However, the marital status, and gender did not influence retention in service at the university

### B. Recommendation

In light of the results which show that young teaching staffs, are leaving the university at a high rate, there is need to set-up measures in retaining academic staff at lower academic qualifications rather than focusing primarily on those with doctorates. This is because academic staff at the lower rank constitutes a pool from which the future generation of the academics will be drawn. In other words, retaining of staff at the lower ranks is important for Makerere University in achieving its goal of being a leading institution for academic excellence and innovation in Africa. Training these young staff and ensuring that their goals are secure will not only increase retention in service but also improve the standards of the university as well trained and experienced academic staff will be retained.

### C. Areas of Further research

Apart from the variables that the researcher concentrated on, further research using primary data should be done to assess whether academic staff's religion with housing facility and scholarship at Makerere University influence their retention in service. There is need to investigate whether academic staff that quit Makerere University switch to other universities or other employment sectors.

## REFERENCES

- [1]. Adams, J.S (1993). Towards an understanding of inequity Journal of Abnormal and Social Psychology, 67 (5), 422-436. Retrieved on 14<sup>th</sup> march, 2013 from <http://www.mendeley.com/catalog/toward-understanding-inequity>
- [2]. Altman, D., (1990). Practical Statistics for Medical Research. Chapman & Hall, London, England
- [3]. Amutuhaire, T. (2011), Terms of service and job retention. Lambert Academic Publishing AG & Co Kg, Faiford, UK
- [4]. Aswathapa, K. (2005). Human Resource and Personnel Management: Text and cases. Tata McGraw Hill, Novida, India
- [5]. Boyd, D., Lankford H.; Loeb S.; & Wyckoff J. (2002), initial Matches, Transfers, and Quits: Career Decisions and Disparities in Average Teacher Qualifications across schools. Stanford, New York, United states of America
- [6]. Dawis, R. V., & Lofquist, L. H.(1991). Essentials of person-environment fit correspondence counseling. University of Minnesota Press, Minneapolis, United States of America.
- [7]. Giles, T. (2004). Remuneration; Non-monetary rewards as part of the remuneration Profile Publishing Ltd, Auckland, Newzealand
- [8]. Gilpin, G.A. (2012). Teacher salaries and Teacher Aptitude: An analysis using Quantile regressions. Economics of Education Review 32(3), 15-29
- [9]. Harrigan M.N., (1999). An analysis of faculty Turnover at the University of Wisconsin-Madison, seattle, Washington. The Annual Air Forum. Retrieved from: <http://apir.wisc.edu/faculty/Turnover/Faculty/Turnover2.html>
- [10]. Harting, D. (2010). Employees-your most valuable asset; Retrieved on September 24, 2010 from: [http://ezinearticles.com/?expert=Dennis\\_Harting](http://ezinearticles.com/?expert=Dennis_Harting)
- [11]. Houseman, S.N (1997). Temporary, part-time, Contract Employment in the United States: A report on the W.E Upjohn institute's Employee Survey on Flexible Staffing policies. Department of Labour, United States of America
- [12]. Ingersoll, R.M. (2001). Teacher turnover and teacher shortages: An organizational analysis. American Educational Research Journal, 38(3),499-534



- [13]. Kajubi, W.S (1990). The university and development in sub-saharan Africa; the case of Makerere in Uganda Retrieved on 10<sup>th</sup> November, 2021 from <http://www.greenstone.org/greenstone3/nzdl;jsessionid=D735B1755F49FF406CA069378F2CE1A?a=d&d=HAS H01322fed82bdabc9404a2879.7.2.np&c=edudev&sib=1&dt=&dt=&ec=&et=&p.a=b&p.s=ClassifierBrowse&p.s a=>
- [14]. Kanamwangi, J.N. (2005). Factors affecting employee retention in institutions of higher learning: A case study of Makerere University Kampala. Unpublished Master's of Arts in Education Management dissertation: Makerere University Kampala.
- [15]. Luekens, M.T., Lyter. D.M., & Fox, E.E. (2004) Teacher Attrition and Mobility: Results from the Teacher follow-up survey, 2000-01 (NCES 2004-301). Retrieved on 5<sup>th</sup> November, 2012 from <http://nces.ed.gov/pub2004/2004301.pdf>
- [16]. Makerere University (2004). The Makerere University Annual Report. Kampala, Uganda. <http://pdd.mak.ac.ug/sites/default/files/archive/AnnualReport2002.pdf>
- [17]. Makerere University (2008). The Makerere University Annual Report Kampala, Uganda. [http://pdd.mak.ac.ug/sites/default/files/archive/MakAnnual%20REPORT%202008\\_final.pdf](http://pdd.mak.ac.ug/sites/default/files/archive/MakAnnual%20REPORT%202008_final.pdf)
- [18]. Makerere University (2009). Fact Book on Staff Structure, Retrieved on 5<sup>th</sup> October, 2012. [http://mak.ac.ug/sites/default/files/downloads/QualificationProfileofAcademicStaff2009\\_0.pdf](http://mak.ac.ug/sites/default/files/downloads/QualificationProfileofAcademicStaff2009_0.pdf)
- [19]. Makerere University (2009). The Makerere University Human Resource Manual Kampala, Uganda accessed from <http://mak.ac.ug/about/vision-mission> on 12<sup>th</sup> December, 2012
- [20]. Makerere University Academic Staff Association (2003). The proposed increase in the salaries of the academic staff of Makerere University Retrieved on 8<sup>th</sup> November, 2012 from: <http://http://docs.mak.ac.ug/letters/proposed-increase-salaries-academic-staff-makerere-university>
- [21]. Mamdan, M. (2007). Scholars in the marketplace: The dilemmas of neo-liberal reform at Makerere University (1989-2005). Fountain Publishers Ltd, Kampala, Uganda
- [22]. Metcalf, H., Rolfe, H., Stevens, P., & Weale M., (July, 2005). Recruitment and Retention of Academic Staff in Higher Education, National Institute of Economic and Social Research, Research Report RR658. ISBN 1 84478 523 8. Accessed from <http://www.vitae.ac.uk/CMS/files/1.DfES-recruitment-and-retention-report-July-2005.pdf>
- [23]. Muceke, J., N., Iravo, M., E., & Namusonge, G., S., (July, 2012). Determinants of Academic Staff Retention in Public Universities in Kenya: Empirical Review, International Journal of Humanities and Social Science, 2(13). 205 – 212
- [24]. Mugimu, C. B., Nakabugo, M. G., & Katunguka, R. E. (2009). Exploring Factors Affecting Staff Research Output and Completion Rates of Graduate Students in Makerere University – status report as of 21 November 2010. Kampala: Makerere University.
- [25]. Murnane, R. J., Singer, J.D., Willet, J.B., Kemple, J.J., & Olsen, R.J (1991). Who will teach? Policies that matter. Harvard University Press, ISBN-13:9780674951921
- [26]. National Council of Higher Education, (2004). The State of Higher Education: A report of a survey of Uganda's Institution of Higher Learning. Axis printers Ltd, Kampala, Uganda National Higher Education Research Institute, NAHERI (2004), Enhancing Quality of faculty in private higher education institutions. Accessed from: <http://jpt.mohe.gov.my/PENYELIDIK/penyelidikan%201PPTN/A%20Study%20on%20Enhancing%20the%20Quality%20of%20Faculty%20in%20Private%20Higher%20Education%20Institution.pdf>
- [27]. Osborne, J., & Elaine W., (2002). Four assumptions of multiple regression that researchers should Republic of Uganda, (1992); Government white paper on The education Policy Review Commission Report on Education for National integration and Development, Republic of Uganda, Kampala.
- [28]. Roessler, R.T., (2002). Improving job tenure outcomes for people with disabilities: the 3M model Rehabilitation Counseling Bulletin 45(4), summer 2002.
- [29]. Shapiro, S., & Wilk, M.B. (1965). An analysis of variance test for normality (complete samples) *Biometrika*, 52 (3-4):591-611
- [30]. Shicherman, C. (2005). Becoming an African University:
- [31]. Makerere University 1922-2000; Fountain Publishers, Kampala, Uganda Ssesanga, K., & Garret, R.M. (2005) Job satisfaction of University academics: Perspectives from Uganda. *Higher Education* 50(I), 33-56
- [32]. Stuit D. A., & Smith T.M., (2009), Teacher Turnover in Charter Schools, National Center on School Choice. R305A040043 Retrieved from: <http://www.Vanderbilt.edu/schoolchoice/search/publication.php?id=62>
- [33]. Tettey, J.W. (2006). Staff retention in African universities: elements of sustainable strategy. University of Calgary, Alberta, Canada. Commissioned by World Bank
- [34]. Tettey, W.J. (2010). Deficits in Academic Staff Capacity in African: Partnership for Higher Education in Africa (PHEA). Retrieved on 20<sup>th</sup> October, 2012 from: [www.foundation-partnership.org/pbs/pdf/tetty\\_deficits.pdf](http://www.foundation-partnership.org/pbs/pdf/tetty_deficits.pdf)
- [35]. Wamala, R., & Oonyu, J.C (2012). Completion Time Dynamics for Master's and Doctoral Studies at Makerere University. *Contemporary Issues in Education Research (CIER)* 5(2), 131-138
- [36]. Xiaoyang L. (2004). Uganda Tertiary Education Sector Report: Africa Region Human Development Working Paper Series. Retrieved on 8<sup>th</sup> September, 2012 from: [siteresources.worldbank.org/AFRICAEXT/Resources/no\\_50.pdf](http://siteresources.worldbank.org/AFRICAEXT/Resources/no_50.pdf)