

KNOWLEDGE STORAGE, RETRIEVAL AND EMPLOYEE PERFORMANCE: THE MODERATING ROLE OF EMPLOYEE ENGAGEMENT

Koech Sitienei Caroline

Entrepreneurship and Human Resource Department, the Eldoret National Polytechnic, P.O
Box 4461- 30100, Eldoret, Kenya

Boit John Mugun

Department of Gender and Socio Economic Development, School of Arts, Moi University,
P.O Box 3900-30100, Eldoret, Kenya

Maru Loice

Department of Management Science, School of Business and Economics, Moi University,
P.O Box 3900-30100, Eldoret, Kenya

ABSTRACT: *Knowledge has been considered by organizations as a strategic resource in enhancing both individual and organization performance. Organizations in their effort to store knowledge encourage employees to document which is then stored in repositories where it can be accessed with ease and used by anyone in the organization who needs it. Accessing knowledge and learning appropriate knowledge. Based on this argument, the study sought to establish the relationship between knowledge storage and retrieval and employee performance and also to determine the moderating effect of employee engagement on the relationship between knowledge storage and retrieval and employee performance. Human capital theory, resource based view and knowledge based view theory informed the study. The study used explanatory research design. The target population was 3147 employees in public technical institutions in Rift valley and 343 formed the sample size as per Cochran's formula. Random sampling technique was used to identify the respondents who filled the questionnaires. Data was analyzed using descriptive and inferential statistics and presented in form of frequencies, percentages charts and graphs. The study showed that there is a relationship between knowledge storage, retrieval and employee performance. The study further revealed that employee engagement moderates the relationship between knowledge storage, retrieval and employee performance.*

KEYWORDS: Knowledge Storage and Retrieval, Employee Engagement, Employee Performance

INTRODUCTION

Knowledge management has been there since time immemorial. This can be seen through owners of family businesses who have passed on their commercial wisdom on to their children, master crafts men have taught their trades to apprentices and workers in organizations have exchanged ideas, experiences, insights and knowhow on the job (Hansen *et al.*, 1999; Armstrong, 2005:2009). However, it was until early 1990s that managers in organization started viewing knowledge as a strategic resource and developed countries were among the first countries to embrace Knowledge management particularly the consultancy firms (Hansen *et al* 1999). Extant literature reveals that today knowledge management has been embraced by

many organization both in developed and developing economies (Carroll *et al.*, 2002; Burstein, *et al.*, 2003; Ernest-Jonnesse and Lofthouse, 2005; World Bank and European Training Foundation, 2005; Basu and Sengupta, 2007; Hussain, 2009; Mohsennab *et al.*, 2009; Nasiruzzaman *et al.*, 2013).

Africa as a continent has not been left behind in embracing the concept of knowledge management. Mosoti and Masheka, (2010) in their study “Knowledge Management: A Case of Kenya” acknowledged that an electronic network in Africa has been created to foster connections across varying boundaries and to create a knowledge bank that links expertise with demand. Among the knowledge bank is Knowledge Management Africa (KMA) which has become a knowledge engine that drives appropriate development solutions for Africa (Banhenyi, 2007). Among other organizations that offer regional platform for professionals in knowledge management are Information Africa Organization and Africa Academy of Management.

Although Africa has made Progress in knowledge management there is a lot that need to be done especially in contextualizing knowledge management practices in Africa. This can be achieved through research. The study took this challenge and explored knowledge storage and retrieval, employee engagement and employee performance in technical institutions in Kenya. Technical and vocational education and training (TVET) has been viewed by scholars as a contributing factor in the knowledge economy. UNESCO and ILO (2002) defines TVET as those aspects of the education both general and specific, the study of technologies and related sciences, the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economy and social life. TVET systems in Africa differ from country to country and are delivered at different levels in different types of institutions, including technical and vocational institutions, polytechnics, enterprises, apprenticeship training centres and industrial training centres. The study focuses on Kenya.

Statement of the Problem

Barney (1991), Gupta and McDaniel (2002) and Goh (2004) have acknowledged that the field of knowledge management has emerged strongly as a source of competitive advantage. Knowledge as a resource particularly tacit knowledge is difficult to imitate, it is rare and possesses value and firms can leverage it to improve competencies, capabilities processes, and products. Kaplan *et al.*, (2001) commended that despite the recent proliferation of research into knowledge-based arguments, a number of fundamental constructs and questions have yet to be clearly defined and explored and validated through empirical research. This study therefore contributes to filling the gap that currently exist in literature by empirically exploring the concept of knowledge Storage and retrieval and linking it to employee engagement and employee performance.

Currently, Technical and vocational education and training (TVET) is back on the development agenda of many African countries after years of benign neglect, instigated by a complex set of reasons that included budgetary constraints and criticisms by World Bank in the early 90's concerning the direction and focus of TVET (World Bank, 1991). Kenya is in the forefront in rebranding TVET as holding the key to rapid industrialization and national development. However the development agenda emphasizes more on infrastructure within TVET and pays little attention on employees who bring knowledge, skills and capabilities for better performance in the organizations. In addition employees are key in managing all other resources in the organization including knowledge.

LITERATURE REVIEW

Employee Performance

According to Campbell *et al.*, (1990), employee performance are behaviors which employees display and are observable, measurable and are valued by the organization because of its relevance to organizational goals. The study acknowledged the models of performance presented by Campbell *et al.*, (1996) and Viswesvaran *et al.*, (1996) factoring in the caution that these components are not necessarily present in every job and are not the last word for defining the employee performance domain as postulated by Campbell *et al.*, (1996).

The Viswesvaran *et al.*, (1996) model established ten dimensions of performance as follows; Productivity, effort, job knowledge, interpersonal competence, administrative competence quality, communication competence, leadership, compliance with authority and overall performance. There are significant differences between these models, Productivity and Quality for instance appear on the Viswesvaran *et al.*, (1996) model and are supported by OPM, (2001) and Hakala, (2008) but not among the Campbell *et al.*, (1996) dimensions, whereas there seems to be no equivalent for non-job specific task proficiency in the Viswesvaran *et al.*, (1996) list. However the overlap between the lists is substantial and that these models both appear to reflect broader and more fundamental structures of employee performance. The study acknowledged the diversity of views from extant literature and in moving forward the concept of employee performance, the study synthesizes the components of Campbell *et al.*, (1996), Viswesvaran *et al.*, OPM, (2001) and Hakala, (2008) and adopts the components that are viewed to be within the control of the employee and are measurable.

Knowledge Storage Retrieval and Employee Performance

Knowledge storage involves both the soft or hard style recording and retention of both individual and organizational knowledge in a way so as to be easily retrieved. Knowledge storage utilizes technical infrastructure such as modern informational hardware and software and human processes to identify the knowledge in an organization, then to code and index the knowledge for later retrieval (Nonaka and Takeuchi, 1995; Santo, 2005; Armstrong, 2000:2006). This approach encourages people to document approach. A repository as argued by Armstrong, (2006) allows many people to search for, and retrieve codified knowledge without having to contact the person who originally developed it. This saves on time and other organizational resources and thus improved performance.

The draft TVET policy by the Ministry of Education, (2014) articulates that it is through the policy that the Government of Kenya will guide and provide an enabling environment to promote capacity building including development of the requisite TVET human capital, sustainable financial mechanisms for training, ICT infrastructures and effective partnerships and linkages for knowledge generation, storage, and retrieval and sharing. This is augmented by the Jamaican vision 2030 education sector plan, (2009) which revealed that ICT at the institutional level serves multiple purposes, all of which contributes to the creation of a knowledge-based, information oriented systems and improved performance. Furthermore, the UNESCO-UNEVOC International Centre for Technical and Vocational Education and Training (UNESCO-UNEVOC) in their report "ICTs to strengthen TVET in Georgia" identified ICTs in TVET as a priority area in improving performance. However scholars have noted that the failure of knowledge management practices could be ascribed to too much

importance placed on technological aspects and insufficient attention given to the human aspects of knowledge management (Beesley, 2004; Call, 2005; Cooper, 2006).

From literature reviewed there is general agreement of relationship between knowledge storage retrieval and employee performance. Thus this leads to the first hypothesis.

H₀₁ *There is no statistically significant relationship between knowledge storage and retrieval and employee performance in technical institutions*

Employee Engagement and Employee Performance

Harter *et al.*, (2002) sees employee engagement as employee's involvement, commitment, satisfaction and enthusiasm to their organizations and its values. Employees that are engaged and committed in their job roles and organizational roles are great asset to their organization because they are crucial for the companies' competitive advantage, higher productivity and superior performance (Robert, 2006). Therefore, engaged employees are aware of the organizational objectives and work with other co-employees to enhance their performance for the benefit of the entire organization.

Since the inception of engagement construct, researchers have studied various aspects of employee engagement. It is evident from extant literature that employee engagement has an impact on organization results both at employee level and organization level. (Rucci *et al.*,1999; Gates, 2003; Perrin, 2003:2004; Corporate Leadership Council, 2004; Human Resource Magazine, 2004; Vance, 2006; Macleod and Clarke, 2008; Gallup, 2006:2007:2012; Hewitt, 2004: 2011:2012; Cowart *et al.*, 2012; Winkler *et al.*, 2012; Kruse, 2012).

Remarkably, there are mixed perspectives on the concept of employee engagement. For instance, Kahn's perspective on engagement was on the employee's cognitive affection and employee behavioral aspect, while scholars like Gubman (2004) and Bates (2004) perspective was on the emotional attachment of the employees. These scholars perceive engagement as an apex emotional attachment to one's job, one's organization and workmates. Baumruk (2004) was on both sides, as he straddles the cognitive and emotional perspective and gave his definition of engagement as: "*a state of emotional and intellectual commitment of an individual*" (Baumruk, 2004, p. 49). Lastly, Shaffer (2004) perspective mainly focused on the behavioral outcomes and perceives engagement as an individual's readiness to spend discretionary efforts on their jobs as well as the employee's loyalty to stay with their organizations. The study synthesizes the views by Khan, (1990), Gubman, (2004), Baumruk, (2004) and Shaffer, (2004) and adds that cognitive, emotional, behavioral or intellectual commitment by employees does not guarantee improved performance. This view is supported by Murphy (2013).

The link between employee engagement and employee performance was sharply contrasted by Murphy (2013) in his study which linked employee engagement scores and employee appraisal scores. Murphy found that workers who were deemed to be low performers in their annual review scored higher than those employees who were viewed as high performers. He further established that highly engaged employees were low performers and that those employees who were low in engagement were high performers. These findings indicate a sharp contrast to years of research linking employee engagement to increased employee performance, productivity, profitability and overall organizational performance. This implies that more research is needed to explore this new dimension.

The negative correlation between employee engagement and performance was further established by Jaupi and Llaci, (2014) in their study 'Employee Engagement and its Relation with Key Economic Indicators' established that in Albania, the region that reported the lowest income per capita (GDP 24%), had the most employees engaged (76.4%). This further validates the argument that highly engaged employee are low performers.

Extant literature reviewed shows that there is no agreed relationship between employee engagement and employee performance. This led to the second hypothesis.

H₀₂ *Employee engagement does not moderate the relationship between knowledge storage and retrieval and employee performance.*

MATERIAL AND METHODS

The study used explanatory research design to show the causal relationship. The study used primary sources of data to achieve the set objectives. The target population was 3147 employees in public technical institutions in Rift valley and 343 formed the sample size as per Cochran's formula. Random sampling technique was used to identify the respondents who filled the questionnaires. The instrument used was in a five point scale. Data was analyzed using descriptive statistics, Pearson moment correlation and regression model analysis. Data was presented using frequencies, percentages charts and graphs.

RESULTS

Demographic Information of Respondents

The results showed that majority of the respondents were aged between 35 and 44 years 128 (40.1%), followed by 25 to 34 years 97(30.4%), followed by 45 to 54 years 61(19.1%), followed by 18-24 years 24(7.5%) and over 55 years 9(2.8%). Regarding gender, women were the majority comprising 166 (52%) and men were 150 (47%). Concerning the level of education, majority of the respondents 109 (34.2%) have first degree, followed by holders of master's degree 70 (21.9%). Diploma and higher diploma holders were equally distributed and comprised of 64 respondents each representing (20.1%) each. PhD holders were the least 12(3.8%). The study further reveals that majority of employees have worked in the organization for less than five years which represents 113 (32.6%). This is followed by those who have worked between 6 to 10 years 95 (29.8%). The third category 11 to 15 indicate 63 (19.7%), 16 to 20 category indicate 37 (11.6%), those who have worked between 21 to 25 years are 13(4.1%) and 7 (2.2%) have worked in the same organization for over 25 years.

Correlation Results

The Pearson moment correlation was performed as it measures the strength and direction of linear relationship between variables.

Table 1: Correlations Statistics for Linear Relationships between Variables

	Performance	Knowledge Storage	Employee Engagement
Employee performance	1		
Knowledge storage & retrieval	.298**	1	
Employee engagement	.328 ***	.398***	1

***Correlation is significant at 0.001 level

From the results, employee engagement strongly relates with employee performance as shown by correlation coefficient value of .328 indicating that employee engagement was a significant factor and contributed 32.8 percent of the change in employee performance. Knowledge storage and retrieval was also positively correlated with performance as indicated by correlation coefficient value of .298 which shows that 29.8% of change in employee performance was significantly accounted for by knowledge storage and retrieval. The presence of linear relationship between variables paved way for multiple regression analysis.

Hypothesis Testing

Hypothesis (Ho₁) stated that knowledge storage and retrieval has no significant effect on employee performance. However, research findings revealed that knowledge storage and retrieval had coefficients of estimate which are statistically significant ($\beta = .215$, $p < .001$) as shown in Table 2. This implies that the null hypothesis was rejected and the study confirmed that knowledge storage and retrieval positively and significantly affects employee performance.

Table 2: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	1.421	.087		16.366	.000		
Knowledge storage and retrieval	.215	.039	.298	5.538	.000	1.000	1.000

The R^2 value of .089 shown in Table 3 implies that knowledge storage and retrieval contributes 8.9% of variance in employee performance. The F value of (30.667, $P < 0.001$) indicates that the regression model is significant and has some explanatory value. Therefore there is a statistically significant relationship between predictor variables knowledge and overall employee performance at 95% confidence level ($p < .05$). The findings further revealed the models goodness of fit as shown by the coefficient of determination value of (R^2) with a value of .089 and adjusted (R^2) with a value of .086.

The independence of residuals was checked using the Durbin Watson statistic .The Durbin Watson value was (1.669) which revealed that there was no serial correlation and the values are within the accepted threshold of between 1.5 to 2.5 (Hayes, 2013).

Table 3: Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin - Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.298 ^a	.089	.086	.50245	.089	30.667	1	314	.000	1.669

Hypothesis (Ho₂) stated that employee engagement does not moderate the relationship between knowledge storage, retrieval and employee performance. The hypothesis was rejected as the findings confirmed that employee engagement significantly moderates the relationship between knowledge and retrieval and employee performance though negative as shown by the coefficient of estimates in Table 4 ($\beta = -.234$, $p < .001$)

Table 4: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	2.013	.036		56.056	.000		
Storage retrieval	.081	.043	.113	1.896	.059	.732	1.366
Engagement	.219	.046	.252	4.735	.000	.911	1.097
Storage retrieval* Engagement	-.234	.055	-.244	-4.253	.000	.787	1.270

The introduction of interaction terms into the model increased the model predictive capacity in explaining the variation in employee performance from 0.89% (See Table 3) to total of 19.5% as shown in Table 5. The increase is statistically significant ($p < .001$) as shown by the F change statistic (25.180). The findings further revealed a goodness of fit as indicated by the coefficient of determination (R^2) with a value of .195 and the adjusted (R^2) value of .188. The difference between (R^2) and adjusted (R^2) is a value of .007 which is relatively small and this indicates the model stability, thus the model can be used for future prediction.

The study further revealed that there was no serial correlation as shown by the Durbin Watson statistic (1.861).

Table 5: Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.442 _a	.195	.188	.47431	.195	25.180	3	311	.000	1.861

To further probe the nature of interaction in hypothesis (Ho₂), scatter plots were generated where employee performance was regressed onto knowledge storage and retrieval (Figure 1 and figure 2) across the levels of employee engagement. The levels of engagement were conceptualized by the study as low engagement, moderate engagement and high engagement. Interactions were plotted by adding fit lines to the groups to facilitate interpretation. The study in establishing the nature of interaction between knowledge storage and retrieval, employee engagement and employee performance, first categorized employee engagement into two levels namely; low engagement level and high engagement level and plotted scatter plots with fit lines. This was aimed at comparing the interaction between two levels of engagement and three levels of engagement to establish if the results are consistent in supporting the argument that highly engaged employees are poor performers and vice versa.

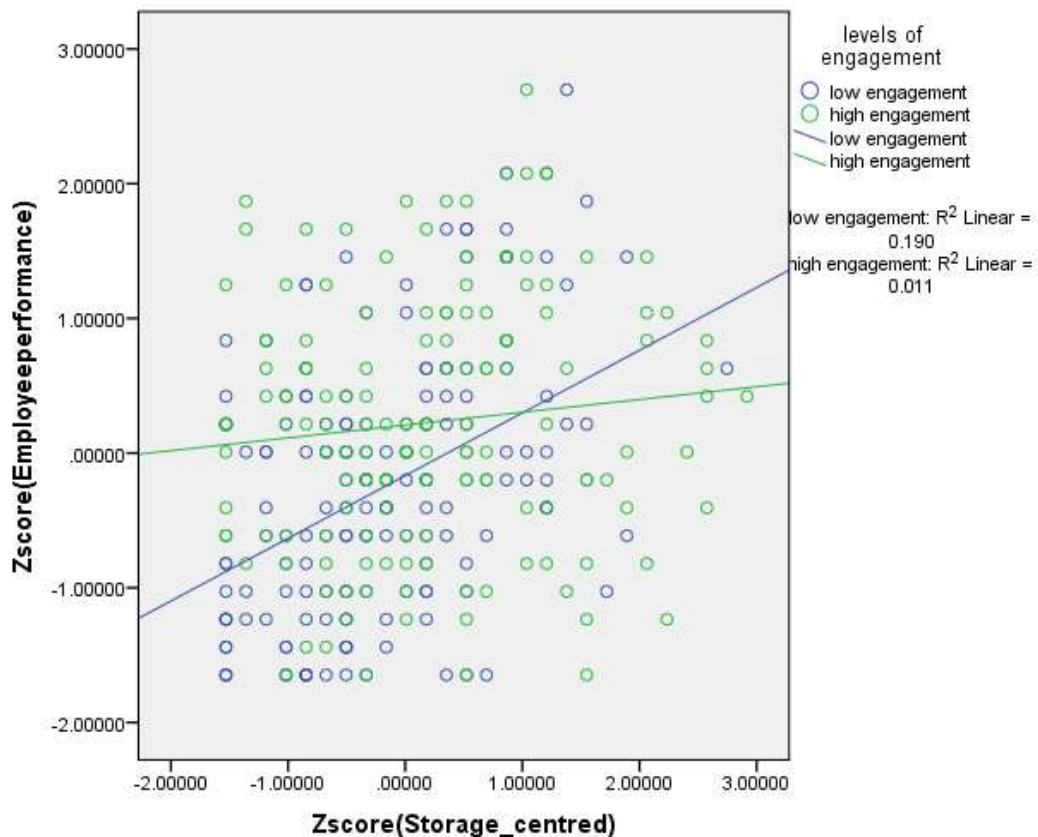


Figure 1: Scatter Plots on Knowledge Storage, Retrieval and Employee Performance on Two Levels of Engagement

Source: Survey Data, (2015)

The findings revealed that when employee engagement is low then employee performance in knowledge storage and retrieval is high as indicated by (R^2 linear = 0.190). When employee engagement is high, employee performance in knowledge storage and retrieval is low and this is illustrated by (R^2 linear = 0.011).

To further ascertain the findings that high engagement scores correlates with low performance and vice versa, the study categorized employee engagement into three levels namely; low engagement, moderate engagement and high engagement and a further inspection was done to establish if the trend is consistent across the three levels of engagement.

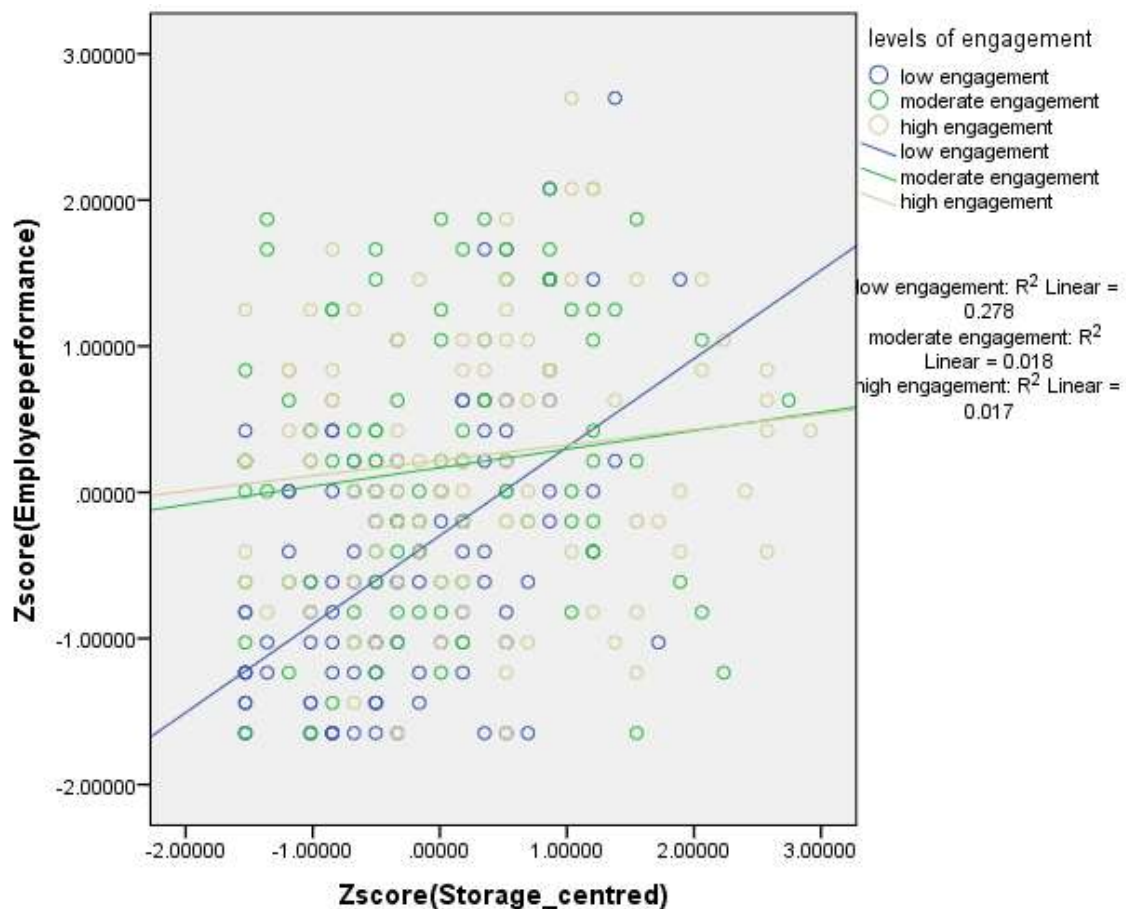


Figure 2: Scatter Plots on Knowledge Storage, Retrieval and Employee Performance on Three Levels of Engagement
Source: Survey Data, (2015)

The findings revealed a consistent trend where low engaged employees performed highly in knowledge storage and retrieval as shown by (R^2 linear=0.278), followed by moderately engaged employees with (R^2 linear =0.018). Those who were highly engaged trailed at the bottom as shown by (R^2 linear =0.17).

The study therefore, established that employee engagement negatively and significantly moderates the relationship between storage and retrieval. This implies that low engaged employees are high performers and highly engaged employees are poor performers and this

could be attributed to the fact that the rational commitment, emotional commitment and intention to stay in the organization by poor performers who are highly engaged could be motivated by other factors like prospects in career progress, promotions, or prestige other than performance. The study recommends that technical institutions should align knowledge management goals, performance and compensation in order to make employees productive.

Theoretical Implications

According to extant literature it has been acknowledged that more efforts are needed to extend the resource based view, knowledge based view and human capital theory from merely examining the resource attributes to analyzing the extent of the relationship between these resources and other related variables towards achieving improved performance (Schuller 2002; Peteraf *et al.*, 2003 and Rodriguez, 2005). To this end, this study has contributed to filling this gap by developing a model that relates knowledge storage and retrieval, employee engagement and employee performance. The study findings confirm the direct relationship between knowledge storage and retrieval and employee performance. This study further established the influence of employee engagement as moderator on the relationship between knowledge storage, retrieval and employee performance as confirmed by the results.

Managerial Implications

Basing on the findings, knowledge storage and retrieval had a positive and significant relationship with employee performance. The study therefore recommends that technical institutions should improve technical systems such as modern informational hardware and software and human processes to identify the knowledge in an organization, code and index the knowledge for later retrieval. The institutions should encourage employees to document knowledge in form of high level research articles, lecture materials, book reviews, work manuals, reports among others. This knowledge should be stored in repositories where it can be successfully accessed and used with ease by anyone in the organization. This implies that TVET institutions should have an integrated technical infrastructure including networks, databases, repositories, computers and software and this means more investment on information technology.

Recommendations for Future Research

The results of this study have shown a remarkable leading factor in assessing the contribution of knowledge storage and retrieval, employee engagement and employee performance. However, this study was confined in TVET institutions in rift valley Kenya hence limiting the generalizability of the findings. To augment the research findings of this study, the study recommends a replica study to explore these findings in different environments and cultures to further validate the authenticity of the findings.

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