Eastern Africa Journal of Contemporary Research (EAJCR)

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Virtual Teams Management Practices and Project Performance of Selected Universities in Kenya

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Abstract

Documented evidence has shown the benefits and challenges of using virtual teams' arrangement in the execution and implementation of projects; however, these studies have been limited in the educational sector. This study therefore sought to investigate the effectiveness of virtual teams on project performance in higher learning institutions in Kenya. Specifically, the study sought to examine the effect of communication on project performance; to investigate the effect of recognition practice on project performance, and to examine the effect of information sharing on the project performance of higher learning institutions in Kenya and to test the mediating effect of employee commitment on the relationship between virtual team management practices and project performance. The study targeted a sample of 304 respondents drawn from both teaching and non-teaching staff in 3 public universities in Nairobi City County using Taro Yamane approach. Data was collected using closed-ended questionnaire whose reliability score was above the acceptable level. The reported findings are based on a relatively high response rate. The inferential test for diagnostics on multicollinearity showed that both the VIF and Tolerance levels were within the acceptable range and that the findings were not invalidated by the influence of multicollinearity. The regression results testing the direct relationships indicated that while effective communication and recognition practices had a significant positive effect on project performance, information sharing was not significant. Employee commitment partially mediated the relationship between Virtual Team Management practices and project performance in the surveyed universities in Nairobi County. The study concludes that for enhancing performance of higher learning institution in Nairobi County Kenya, virtual team management practices such as effective communication, recognition practices, information sharing and team commitment are mandatory. The study recommends that virtual settings should be equipped with effective communication facilities and gadgets, management of an organisation should constantly embrace attitude of appreciating its workforce so as to create a sense of belonging within the organisation and to improve in the aspect of sharing important information to develop trust which in turn leads to performance on the part of virtual team members in the organisation.

1. Introduction

High learning institutions carry out a significant part of their work through projects that requires high level coordination and networking among project team members. Project manager assigned to this project need to apply a combination of relevant managerial skills to get the work done so as to accomplish the project expectations within a

specific time. In project management, project execution and performance involve the activities of people and the management itself involves the process of getting things done through other people in the organisation. Achieving project performance and success in virtual settings hinges largely on information and communication technology. Helms and Raiszadeh (2002) have argued that without technology, the issue of virtual arrangement would have been non-existent, but it is not a substitute for entire work experience. Therefore, the performance of tasks to accomplish a common objective of virtual organisation remains a function of virtual team management practices.

A virtual team which is composed of the human elements of the virtual organisations can be managed in different forms. It is conceived as a group of people linked together by means of information and communication technologies to accomplish organisational tasks, then, one of the ways to make virtual teams to be effective is to improve communication within the organisation. Thus, the literature suggests that a combination of various managerial practices such as communication, recognition and information sharing can contribute to virtual team performance.

Effective communication has remained as one of the greatest challenges confronting virtual teams as pointed out by the study carried out by Chatfied, Shlemoon, Redublado, and Darbyshire (2014). They posit further that virtual team management practices remain vital for a virtual organisation to deliver business value and this can be achieved by improved and effective communication within the organisation. A virtual setting arrangement lacks the bureaucratic setting which defines the relationship between workers and management and therefore this has been replaced with trust. To achieve performance or accomplishment of organisational tasks, trust must be embedded among the virtual members in a virtual organisation. Therefore, lack of trust has been identified as a bane of virtual team management practices in a virtual organisation (Chatfied *et al*., 2014; Zuofa & Ochieng, 2017).

Recognition of team members has been pronounced a veritable means of motivating people to achieve performance within the organisation. Lee-Kelley, Crossman and Cannings (2004) posited that the public acknowledgment of achievement in virtual environment is critical to project success and future commitment. It has been argued that the need for recognition has been regarded as a fundamental driver of human behaviour (Paré & Tremblay, 2007). Recognition practices include the non-monetary and financial rewards through which an organisation tangibly signals its appreciation of quality work, achievements and workforce for the success credited to their efforts (Paré & Tremblay, 2007). These practices include efforts on the part of the organisation to carefully consider the employee suggestions and provide them with reasonable and positive feedback. Employees who perceive that their organisation is interested in appreciating their efforts and achievement will contribute their efforts towards ensuring project success and performance in an organisation.

Information sharing is among the practices that can be enhanced to ensure project success and performance. According to Meyer and Allen (1997) and Rodwell, Kienzle, and Shadur (1998), information sharing practices favour the internalisation of organisational goals and values by employees, enhance feelings of mutual trust, and make individuals feel important to the company. Sharing of information on key areas and activities of the organisation such as strategy, operational measures and procedures, allocation of resources, assignment of tasks, schedules of works, monitoring and evaluation of project and others conveys to the organisation's people that they are trusted. Information sharing remains a potent tool for managing trust among teams both in virtual and traditional structures within an organisation.

Application of the various managerial practices can generate some level of employee commitment which is needed to sustain project performance. According to Meyer and Allen (1990), employee commitment is conceptualised into three typologies: affective, normative, and continuance commitment. These three layers of commitment explain the way by which employees identify, involve, and become loyal to the attainment of objectives of their organisation. Affective commitment, according to Allen and Meyer (1990), relates to an employee personal attachment to his or her organisation. This commitment makes an employee to identify and involve the pursuit of activities that will lead to the attainment of goals of his or her organisation. Normative commitment relates to a general feeling of will or an obligation to stay in the organisation and is being expressed by an employee feeling of indebted to the organisation for being considered for a job, when one is needed most. Continuance commitment refers to a commitment that makes employees to stay with their organisation because they need to. An employee decides to stay with his or her organisation because the possibility of getting another job is not certain or the benefits such an employee gets from his or her present job cannot be got elsewhere.

In project management, project performance can be related to project success. A project seems to be successful when it meets time, budgets, and performance goals. Evaluating projects in terms of meeting time, budget, and performance goals remains a traditional measurement; however, project success or performance can be measured in terms of several other indicators. Performance indicators differ from one organisation to another and the projects executed by various organisations will determine the types of project goals they are pursuing. Irrespective of the different tasks being performed by the assembling of teams working on some projects, the ultimate aim of every team should be to ensure the attainment of the overall goals or the objectives of the organisation as indicated by project efficiency, impact on the customers, cost reduction, direct business and organisational success (Shnhar *et al*., 2001).

1.1 Statement of the problem

Higher learning institutions in Kenya are academic communities that are saddled with the responsibilities of providing high quality education to meet the demands of people and the society at large. As a community, a higher learning education especially a

university engages in executing and implementing series of projects for the actualisation of its mandate in terms of service delivery to the society. The performance or success of these projects becomes an important issue of concern to the management of the higher learning institutions in Kenya.

An important means of achieving performance via cost reduction in higher learning institutions is the incorporation of virtual arrangement in communicating service delivery to their necessary clients. Virtual teams have been assembled to implement projects in some key activities of higher learning institutions such as virtual learning programmes, constructions projects, administrative functions, procurements, and consultancy projects. All these projects are implemented basically to attain a common purpose of delivering better quality services to their teeming clients and the society at large. The performance and success of these projects has been met with some brick walls. According to Ondari-Okemwa (2007), inadequate compensation of technical staff, high turnover of technical and managerial staff, and lack of professional training programmes have contributed to downturn in the activities and performance of higher learning institutions in Kenya. Muuro *et al*. (2014) point out that lack of feedback from instructors and peers, lack of time to participate, and slow of internet connectivity have attributed to shrinking patronage in programmes of higher learning institutions in Kenya. Trust has been identified as a function that replaces the usual rules, procedures, and practices that dictate the behaviour of more traditional hierarchical and bureaucratic organisations, but such trust is lacking among virtual teams and personnel, and this has constituted a great challenge for virtual teams in many virtual organisations (Chatfield *et al*., 2014; Zuofa & Ochieng, 2017).

In order to improve and enhance project performance in higher learning institutions in Kenya, the need to make virtual team effective becomes expedient and consequential. While major studies on virtual team management practices and performance were exploratory and qualitative, the need to mount empirical study on virtual team effectiveness and project performance becomes significant. Thus, this study fills this gap via empirical evidence on how to create virtual team effectiveness to improve project performance in institutions of higher learning in Kenya.

1.2 Study objectives

The overall objective of this study was to investigate the effect of virtual team management on the project performance in higher learning institutions in Kenya. The specific objectives of the study were as follows: to investigate the effect of effective communication on the project performance, to determine the effect of employee recognition practices on the project performance, to determine the effect of information sharing practices on the project performance and to establish the mediating effect of team commitment between virtual team management practices and project performance of institutions of higher learning in Kenya.

2. Literature review

The literature reviewed theoretical, conceptual and empirical literature. The theoretical was based on resource-based view (RBV), social exchange Theory (SET) and affective event theory (AET). The RBV theory observes that sustainable competitive advantage can be attained provided a firm engages in development of resources and capacities that remain valuable, rare, inimitable, and not substitutable. The proponents of this view argue that organisations should analyse their internal environment to find the sources of competitive advantage instead of dwelling much in scanning competitive environment forces. This theory was formalised by Barney in 1991. The usefulness of this theory to project management is that it provides a ground to understand the importance of people to the success of an organisation. Since people remain an invaluable asset and an important resource that embraces the features of rareness, inimitability, and non-substitutability, an organisation can, therefore, invest in the enhancement of its virtual teem capacities so as to obtain a sustainable competitive advantage.

SET argues that social behaviour emanates from an exchange process. The motive of this exchange is the maximisation of benefits and minimisation of costs. According to this theory, people compare the potential benefits and risks of social relationships. When the risks override the rewards, people result to termination or abandonment of that relationship. According to exchange theory, as people relate over time, they experience the need to reciprocate the gestures of the other persons. Social exchange theory can be used to explain important relationship that exists between people and their organisations

AET was developed by Weiss and Cropanazano (1996). The theory was designed to explain the cause and results of affective of experiences at work. According to this theory, workers' feelings and emotions at workplace events largely determine work-related outcomes. The framework suggests that certain events in workplace are as a result of work environment features. Achievement, recognition, information sharing, advance/growth, and feedback as the most common events to which employees attribute positive affective reactions. This theory is relevant to this study because the recognition and information sharing to enhance the effectiveness of virtual team will be operationalized as events that need to be invested in the organisation so as to attain project performance. It is believed that if members of virtual team perceived that the organisation is interested in investment to improve their wellbeing and capacities, they may be likely to be motivated and assumed positive behaviour and this may lead to project performance.

2.1 Conceptualization

In order to take the advantage of the benefits that comes with the virtuality of organisations, the assembling of teams to execute and implement the necessary projects becomes significant. Virtual teams are identified, selected, and deployed to

implement projects for the purpose of achieving overall performance that is desired in the virtual organisation. In a bid to direct efforts towards attaining performance at both the team level and organisational level, virtual teams have been confronted with some constraints. Chatfield *et al*., (2014) have pointed out the constraints and challenges facing virtual teams from achieving success to include: ineffective communication, lack of technology adaptation, lack of trust, and lack of physical interaction among the team members. These constraints are attributed to both virtual organisations in both developed and developing countries. In the studies of Zuofa and Ochieng (2017) and Ondari-Okemwa (2007) on virtual teams and organisational effectiveness both in Nigeria and Kenya underscore the lack of trust, dearth of infrastructure, lack of physical interaction, and ineffective communication have constituted great challenges for virtual teams in achieving performance.

However, it has been pointed out that virtual team's management practices are essential for the attainment of performance of a virtual organisational. Chatfield *et al*. (2014) and Zuofa and Ochieng (2017) have posited that virtual teams' practices can be attained when there is effective communication, trust pervades the entire working environment, development of interpersonal skills, keeping personnel motivated, and adoption of appropriate technology. In Africa countries, especially in Kenya, organisations that have embraced virtual arrangement in executing and implementing of projects must factor in management practices of virtual teams as a pivotal means of achieving performance and other predetermined goals of the organisation. This study, therefore, dwelt on the need to enhance virtual team's management with the aim of attaining project performance in organisations.

A virtual team is conceived as a group of people linked together by means of information and communication technologies to accomplish organisational tasks. Then, one of the ways to make virtual team to be effective is to improve communication within the organisation. Chatfield *et al.* (2014) pointed out that one of the greatest challenges confronting virtual teams' remains lack of effective communication. They further posited that virtual team management practices remains vital for a virtual organisation to deliver business value and this can be achieved by improved and effective communication within the organisation.

Unlike the bureaucratic setting where formal structure defines the relationship between workers and management, the case is different in a virtual setting arrangement. To achieve performance or accomplishment of organisational tasks, trust must be embedded among the virtual members in a virtual organisation. Therefore, lack of trust has been identified as a bane of virtual team effectiveness in a virtual organisation (Chatfield, *et al.,* 2014; Zuofa & Ochieng, 2017).

When organisation's employee feel that their organisation is interested in practices for building their trust, commitment on their part may be fostered and project success and performance may be enhanced. In the study of Pare and Tremblay (2007), the effect of information sharing was investigated on turnover intention of highly skilled IT professional members of Canada Information Processing Society. The study was a

survey research and structural equation modelling was used to analyse the data obtained from 394 respondents. The findings revealed a negative relationship between turnover intention and information sharing in an organisation. Though, the study found a negative relationship between information sharing and turnover intention, there is need to extend the relations such a construct will have on project performance in virtual team setting.

2.2 Empirical Summary

Ineffective communication has been identified as a key challenge mitigating against management of virtual teams' practices towards achieving performance in an organisation (Daim *et al*., 2012; Zuofa & Ochieng, 2017). As pointed out, the key to virtual team management practices has been the importance of choosing the appropriate communication media to fit the requirement of the task and the message. Studies on virtual teams have pointed out that lack of face-to-face interactions between team members endangers trust and inhibits cohesion, and, therefore, effective communication is required to enhance virtual team management practices in a virtual organisation.

Zuofa and Ochieng (2017) investigated the challenges of virtual project teams in organisations in Nigeria. The study was conducted with a view to identifying what constitutes challenges to virtual team and how virtual team management practices can be enhanced so as to attain performance in an organisation. The study adopted a survey research using a qualitative method where interviews (semi-structured) were conducted to elicit responses from the participants. The study adopted non-probability sampling design where snowball sampling technique was used to determine the participants of the study. The participants of the study were drawn from engineering, banking, and IT sectors that have several roles such as projects and programme managers. The recorded interviews were analysed manually to chart the conclusion of the study. The study has in of one its conclusions that face-to-face communication is needed to enhance virtual team cohesion and effectiveness as this would have a positive impact on project performance. The face-to-face communication as a means of effective communication is in tandem with earlier study conducted by Maznevski and Chudoba (2000).

In the study by Chatfield *et al*. (2014) that was conducted at the University of Wollongong in Australia, value creation was reviewed through virtual teams. The conclusion from the study showed that communication breakdown remains the bane of virtual teams from achieving project success. The conclusion arrived based on the studies reviewed is that effective communication remains a potent tool for enhancing virtual team effectiveness which in turn will create business value. The study identified ICT tools such as emails, instant message/chat, telephone, video conferencing, remote access control, for enhancing communication effectiveness in a virtual organisation. The study is consistent with earlier studies that identified both synchronous and asynchronous modes of communications as means of enhancing

virtual team management practices and project performance (Anderson *et al.*, 2007; Daim *et al.*, 2012; Lawley, 2006; Shachaf, 2008). The study was limited in the sense that it was on review of existing studies which lacked empirical investigation.

Unlike traditional and bureaucratic organisations where structure defines the relationship between employees, superiors, and the management, in virtual settings, the structure has been replaced by trust. Therefore, recognition practices have been identified as one of the soft approaches for managing and entrench trust among virtual teams within organisations (Lee-Kelly *et al.*, 2004). They posited that the public acknowledgment of achievement in virtual environment is critical to project success and future commitment.

Maholtra *et al.* (2007) investigated leadership practices of effective leaders of virtual teams in 33 companies from different countries in USA. The study adopted survey research where observation, interviews, and survey data were used to obtain responses from the respondents. The study was basically qualitative study with no inferential analysis of the data from the respondents. The study identified that recognition of success achieved by the member of virtual teams in an organisation will build trust and spur them to work towards achieving the success that an organisation desires and that praising of managers or supervisors of virtual teams will motivate and give them sense of belonging in the organisation. The study tried to identify recognition as a way of enhancing virtual team effectiveness but the outcomes are just mere propositions which can be validated through empirical investigation.

Ebrahim, Ahmed, and Taha (2009) conducted a review of literature on how virtual teams can be used to enhance organisational performance and competitiveness. The study adopted a qualitative approach and conclusion were drawn from the reviewed literature. The study concluded that organisational performance and competitiveness can be enhanced where there is fair and motivating reward system. The study therefore pointed out that organisation should develop a fair and rewarding system to enhance virtual team effectiveness towards achieving project performance. The study is limited based on its lack of empirical investigation.

The degree to which an employee identifies with the goals and values of the organisation, and is willing to exert effort to help it succeed is termed employee commitment (Meyer *et al.*, 2002). An employee who is committed will want to be identified with goals and aspirations of the organisation, and also will want to remain with the organisation in the face of any challenges that the organisation is facing. As it applies to traditional organisation, there is need to find out if practices for enhancing virtual team practices have a link with project performance via employee commitment in a virtual organisation.

In the study of Khan and Mohammad (2010), the impact of employee commitment on job performance among employees of the oil and gas sector in Pakistan was investigated. Employee commitment was measured based on the instruments developed by Meyer and Allen (1991). The study established that there is a positive relationship between employee commitment and job performance in an organisation.

It is therefore important to examine the indirect relationship that virtual team effectiveness may have of project performance especially in a virtual setting arrangement.

2.3 Research Hypotheses

The study used a simple conceptual framework that included an independent, mediating and dependent variables. Figure 1 summarises the relationship among the three types of variables.
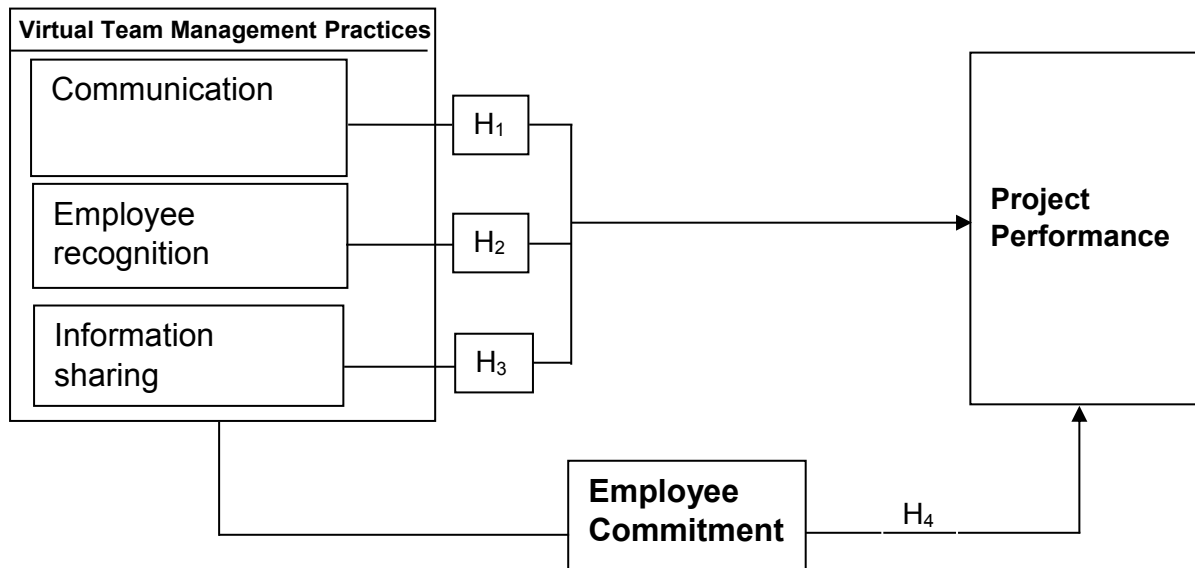

Figure 1: Conceptual Framework for Virtual Teams Management Practices and Project Performance of Selected Universities in Kenya

The study hypotheses that emanated from the objectives of this study were as follows:

H_{01}: *Effective communication practices do not have significant effect on project performance of institutions of higher learning in Kenya.*

H_{02}: *Employee recognition practices do not have a significant relationship on project performance of institutions of higher learning in Kenya.*

H_{03}: *Information sharing practices do not have a significant effect on project performance of institutions of higher learning in Kenya.*

H_{04}: *Team commitment does not mediate the effect of virtual team management on project performance of institutions of higher learning in Kenya.*

3.   Methodology

3.1 Research Design

This study was a survey research and the researchers adopted a blend of descriptive and cross-sectional research designs based on the research problem. The descriptive research was used to describe the characteristics of the phenomena under study while

cross-sectional design allowed data to be collected at once and used to address the problem under investigation.

3.2 Population and Sampling

The population of this study comprised of three selected universities in Nairobi, Kenya. The researchers' choice was influenced by the virtual projects, especially virtual learning programmes, taking place in these universities. These universities include University of Nairobi, Kenyatta University, and Jomo Kenyatta University of Agriculture and Technology with various non-academic and academic personnel that were engaged to carry out the activities of the unit constituted the study population. A total 1260 staff represented the study population from the three universities. In view of taking a sample as a representative of the population of this study, Taro Yamene formula was adopted to determine the sampling size of this study. Sampling of the respondents was essentially done via random sampling method and the total sample size was 304.

3.3 Research Data

This study was a survey research where data was collected directly from the field. A self-designed questionnaire was used as a method of obtaining responses from the respondents. The questions were open-ended measured on a five-point Likert's scales that ranged from 5= strongly agree to 1= strongly disagree.

3.4 Validity and Reliability Test

The instruments were also tested for validity and reliability. In order to ascertain whether the instruments measured what it was supposed to measure in terms of content, criterion, and construct validity, it was submitted to the researcher' supervisor for perusal and guidance. The instrument items were certified to be adequate in terms of measuring the content, criterion, and construct validation. The reliability of the instrument was tested. The internal consistency of the instrument items was tested using Cronbach's coefficient Alpha with a threshold of 0.7.

3.5 Data Analysis

The responses obtained from the respondents formed the data to be processed and analysed for this study. The collected data were quantitative in nature and were analysed using multiple regression method through the aid of statistical packages for social sciences (SPSS), version 20. The results of the analyses were summarised using statistical measures such as means and standard deviations. Data presentations were done using tables to show the frequency distributions of the demographic characteristics of the respondents. The hypotheses were tested using multiple regression models. For hypotheses (H1, H2, and H3), a general linear regression equation was used to test the relationship. To test for H4, the study used step-wise regression method that involved four regression models at four steps.

4. Findings and Discussions

4.1 Respondents' Characteristics

The study registered a response rate of 61.2%. The characteristics of the respondents are summarised in table 1.

Table 1: Demographic characteristics of the respondents

	Frequency	Percentage
Gender		
Male	121	56.1
Female	65	34.9
Age		
21-30yrs	95	51.1
31-40yrs	67	36.0
41-50yrs	19	10.2
51 and above	5	2.7
High Education Level		
Secondary Level	0	00
Undergraduate Level	84	45.2
Postgraduate Level	86	46.2
Others	16	8.6
Working Experience		
1-5yrs	90	48.4
6-10yrs	52	28.0
11-15yrs	19	10.2
16yrs above	25	13.4

4.2 Variable Characteristic

The study measured the study variables using a five-point Likert scale. The descriptive statistics that were appropriate was the mean and standard deviation. The study computed the mean score per variable and the accompanying standard deviation. The findings on each of the variables are presented in a table 2 and a discussion provided for each.

Table 2: Descriptive results of the constructs

Variables	No. of items	α Score	Mean	SD	Comment
Communication	10	.943	3.597	1.2806	Agree
Employee recognition	9	.969	3.741	1.3302	Agree
Information sharing	7	.961	3.691	1.238	Agree
Team commitment	7	.773	3.004	1.141	Neither
Project performance	7	.944	3.447	1.244	Neither

The results in table 2 indicated that all the independent variables were rated at the level of agree while the mediating and the dependent variable were rated at the level of indifference. The responses varied to a moderate extent as indicated by the

Eastern Africa Journal of Contemporary Research (EAJCR)

standard deviations. However, all the variables had a reliability score that was above the threshold of 0.7 indicating that the instrument was internally consistent.

4.3 Test of Hypotheses

Multiple regression method was used to determine the predictive power of the independent variable (VTM) on the dependent variable (PP). Results for hypotheses 1-3 are exhibited in Tables 1, 2, and 3 and for hypotheses 4 and 5 in Tables 4 and 5.

The coefficient of determination (R^2 =.345) showed that 34.5% of variation in dependent variable (PP) was explained by the independent variable (VTM). This means that 65.5% variation in project performance can be explained by other variables apart from virtual team management practices. The adjusted R^2 with value of .334 showed 33.4% of the variation explained in dependent variable by the independent variable from the population not from the sample. This means that, considering the total population of the study, 33.4% of variation in project performance was explained by virtual team management practices.

Hypothesis one (H1) of the study sought to establish the effect of communication effectiveness on project performance. The regression results reported that the *β=0.2* for communication was statistically significant at p<0.05. This means H1 was supported. Based on these results, the study concludes that communication effectiveness has a significant positive statistical effect on project performance among universities based in Nairobi county Kenya. The findings are consistent with study of Chatfield *et al.* (2014) that effective communication influenced virtual team effectiveness which in turn lead to creating values in the organisation. Also, the findings are consistent with the arguments of the resource-based view theory. According to the study, the resources that enable a firm to design and execute a value-creating strategy include communication systems.

The second hypothesis (H2) sought to establish the effect of recognition practices on project performance. The regression results reported that the *β=0.295* for recognition was statistically significant at p<0.05. This means that H2 was supported. Therefore, recognition practices are positively and significantly correlated with performance. The findings are consistent with the study of Pare and Tremblay (2007). The findings are also in line with social exchange theory which posits that if employees perceive that their organisation considers them as a valuable asset, they may likely to reciprocate this as a gesture towards assuming positive behaviour within the organisation.

The third hypothesis (H3) of this study sought to establish the effect between information sharing practices and project performance. The results yielded a t-statistics value of 1.368 which was not significant (p>0.05). Therefore, H3 was supported. From the value of t-statistics, there is no significant relationship between information sharing practices and project performance. The findings of no relationship negated the previous study of Pare and Tremblay (2007). Also, the findings are not consistent with the findings of the previous research by Fisher (2000) who had identified achievement, recognition, information sharing, advance/growth, and

feedback as the most common events to which employees attribute positive affective reactions, however in the current study, the finding is that there is no significant statistical effect. The study observes that these descriptive statistics on the predicator variable for this hypothesis offer some possible explanation.

The fourth hypothesis (H4) was tested using four regression models and the parameter values compared in order to make the decision on whether there was evidence of mediation. The criteria used was that indicating that if the value of β VTM changes when the value of employee commitment moves from '0" but is still significantly different from "0", then the value indicates evidence of partial mediating effect. However, if the value of β VTM changes to "0' then that gives evidence of full mediation. When the independent alone was regressed against the dependent, the effect on performance was 0.5602 and the amount of variation explained was 49.47%. When the mediating was introduced the effect of VTM on performance increased to 0.6461 (change of 0.0859) and the variation explained declined to 39.47%. This indicates that the effect of VTM on performance is stronger when the mediator is present and the relationship has a weaker explanatory power (R^2=0.3947). Therefore, employee commitment partially mediates the relationship between virtual team management practices and project performance. The finding of partial mediation of employee commitment is consistent with the study by Pare and Tremblay (2007).

4.4 Conclusions

Based on the findings the study concluded that improved project performance requires effective communication, recognition practices, and information sharing. The findings showed positive direct relationship of virtual team management practices on project performance. This means that organisations that are involved in virtual team activities must design and implement good management practices as a means of attaining project performance. The findings of indirect relationship of team commitment were significantly established. This means that when good management practices are designed and implemented in an organisation, team commitment is thereby enhanced, which in turn, lead to desired performance. Organisations should therefore ensure that best management practices be designed and implemented towards obtaining the commitment of employees so as to attain the desired performance.

Table 1. Regression Model Summary

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.587[a]	.345	.334	.949	.345	31.959	3	182	.000

a. Predictors: (Constant), Information Sharing, Effectiveness, Recognition
b. Dependent Variable: Project Performance

Table 2. Regression ANOVA Results

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	86.280	3	28.760	31.959	.000[b]
	Residual	163.784	182	.900		
	Total	250.065	185			

a. Dependent Variable: Project Performance
b. Predictors: (Constant), Information Sharing, Effectiveness, Recognition

Table 3. Regression Coefficients

Coefficients[a]

Model	Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95% Confidence Interval for B Lower Bound	95% Confidence Interval for B Upper Bound	Correlations Zero-order	Correlations Partial	Correlations Part	Collinearity Statistics Tolerance	Collinearity Statistics VIF
(Constant)	1.142	.264		4.321	.000	.621	1.664					
Effectiveness	.200	.096	.192	2.086	.038	.011	.389	.517	.153	.125	.423	2.365
Recognition	.295	.097	.328	3.037	.003	.103	.487	.565	.220	.182	.309	3.231
Information Sharing	.128	.093	.124	1.368	.173	-.057	.312	.488	.101	.082	.437	2.287

a. Dependent Variable: Project Performance

Table 4. Model 1: Regressing Composite Index of Virtual Team (VTMP) Against Project Performance

Model Summary							
Model	R	R Square	MSE	F	df1	df2	p
1	.2875	.0826	.6182	16.5755	1.0000	184.0000	.0001
Coefficients							
	Coeff'	SE	T	P	LLCI	ULCI	
Constant	2.4179	.2171	9.8940	.0000	1.7196	2.5762	
VTMP	.2277	.0559	4.0713	.0001	.1174	.3381	
Outcome Variable: Performance							

Table 5. Model 2: Regressing Composite Index of Virtual Team (VTMP) when Mediating Factor (Employee Commitment, Ecommit') is Present

Model Summary							
Model	R	R Square	MSE	F	df1	df2	p
1	.6282	.3947	.8272	59.6548	2.0000	183.0000	.0000
Coefficients							
	Coeff'	SE	T	P	LLCI	ULCI	
Constant	.02234	.3108	.7188	.4732	-.3898	.8367	
VTMP	.5602	.0675	8.2927	.0000	.4269	.6934	
Ecommit'	.3774	.0853	4.4252	.0000	.2091	.5456	

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