

**EMPLOYEE ENGAGEMENT AND PERFORMANCE OF
RESEARCH AND TRAINING STATE CORPORATIONS IN KENYA**

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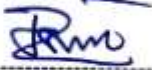
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DEDICATION

This thesis is dedicated to my late father Ben Cheche Gikonyo for his love of education and for believing in me. I will forever cherish your love and devotion to all your children.

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OPERATIONAL DEFINITION OF TERMS

Affective	Strong emotional attachment and involvement in an organisation which
Commitment	makes an employee to identify with organisational objectives and desires to remain a member
Behavioural	Employees' behaviour of putting in extra discretionary efforts in order to
Engagement	achieve organisational goals. This is manifested by role expansion, personal initiative, extra role behaviour and organisational citizenship behaviour.
Continuance	The employee awareness of cost of leaving an organisation which results
Commitment	in decision to remain being a member
Demographic	The unique quantifiable features or characteristics of a particular
Characteristics	population in relation to age, length of service and level of education.
Effectiveness	Degree to which an organisation's activities meet customer expectations
Efficiency	The degree to which an organisation optimises use of resources
Employee	The sense of belonging and ownership that employees have with their
Engagement	work and organisation which result in higher levels discretionary effort being expended in meeting the organisational goals.
Financial	Ability of an organisation to generate more financial resources than it
Viability	consumes which ensures its continued existence
Normative	The sense of obligation experienced by an employee to continue being a
Commitment	member of the organisation
Organisational	The tendency to remain a member of an organisation due to any one or
Commitment	combination of the following reasons; strong emotional attachment (affective commitment), obligation owed to the organisation (normative

commitment) or due to the cost associated to exiting the organisation (continuance commitment).

Organisational Performance	The ability of the organisation to achieve its mission and vision through meeting its stakeholders' expectations and its financial obligations
Public Sector	Agencies that rely on authority conferred to them by the state in discharge of their functions. It covers all public funded institutions both in the mainstream civil service and state owned entities.
Psychological State engagement	This involves feeling of energy, involvement and absorption with work that is based on conditions that prevail at the workplace.
Relevance	An organisation's ability to adapt to the changing environmental demands while satisfying the interest of its major stakeholders
Research and Training State Corporation	State funded semi-autonomous agencies whose core function is to carry out research, dissemination of information and training in various fields. They exclude universities which are in their own category.
State Corporations	Semi-autonomous state agencies that have been set up under legislation to provide services to the citizens outside the mainstream public service in which the government is the majority shareholder and are either wholly or partially funded by public resources.
Traits	Personality characteristics that predispose an employee to engagement.
Engagement	This involves a proactive personality, being positive about life and work and a sense of control over outcomes

ABBREVIATIONS AND ACRONYMS

BE	Behavioural Engagement
BSC	Balanced Score Card
CGD	Centre for Governance and Development
DC	Demographic Characteristics
EE	Employee Engagement
GoK	Government of Kenya
HRMP	Human Resource Management Practices
IDRC	International Development Research Centre
ILO	International Labour Organisation
KALRO	Kenya Agriculture and Livestock Research Organisation
KARI	Kenya Agriculture Research Institute
KEMRI	Kenya Medical Research Institute
KIPPRA	Kenya Institute of Public Policy Research and Analysis
NACOSTI	National Commission for Science, Technology and Innovation
NMK	National Museums of Kenya
OC	Organisational Commitment
OCB	Organisational Citizenship Behaviour
OP	Organisational Performance
PSCK	Public Service Commission of Kenya
PSE	Psychological State Engagement
PTPR	Presidential Taskforce on Parastatal Reforms
RBT	Resource Based Theory
RoK	Republic of Kenya
SCs	State Corporations
SET	Social Exchange Theory
SOE	State Owned Enterprise
SPSS	Statistical Package for Social Scientists
TE	Traits Engagement
UNESCO	United Nations Education, Scientific and Cultural Organisation
USA	United States of America

ABSTRACT

Research and training are very important drivers of economic development and account for differences in development levels between and among countries. For this reason, the African continent is seen to lag behind in development due to under investment in research and training. In Kenya, the country's economic blue print; Vision 2030 has recognised the critical role of science, technology, innovation and training in moving the country to a middle income status. The government of Kenya implements its research and training agenda through a number of state corporations charged with the responsibility of research as well as training. However, performance of the public service in general and that of state corporations in particular has over the years been criticised due to unpredictable and unsatisfactory performance. Research and training state corporations have specifically been criticised due to poor linkage with stakeholders to facilitate demand driven research and training, slow pace of commercialisation of their services and failure to put up a mechanism to link research programmes with national priorities. Further, previous empirical studies on performance of state corporations in Kenya have paid little attention to the role of employee engagement even though there is empirical support that it has significant influence on organisational performance. Therefore, this study sought to investigate the influence of employee engagement on performance of research and training state corporations in Kenya. Specifically, the study sought to: determine the effect of traits, psychological state and behavioural engagements on performance of research and training state corporations in Kenya; to determine the moderating effect of demographic characteristics and the mediating effect of organisational commitment on the relationship between employee engagement and performance of research and training state corporations in Kenya. The study was anchored on resource based view and stakeholder theories and supplemented by social exchange, expectancy and work adjustment theories. A positivistic philosophy was adopted in order to investigate relationships among the variables. Descriptive and explanatory research designs were used to describe the variables and establish the nature of the relationships among them. The target population of the study was nine research and training state corporations in Kenya which had a total of 5728 employees. A census of the corporations was carried out supported by a multi stage sampling strategy to select participants which resulted in a sample of 378 respondents. A response rate of 70% was achieved. Descriptive statistics was used to describe the characteristics of the variables using aggregate mean score and standard deviation. The hypotheses were tested using multiple and hierarchical regressions. Adjusted R^2 was used to measure the amount of variation in the dependent variable that was attributed to changes in the independent variables. The result indicates that traits, psychological state and behavioural engagements significantly influence performance of research and training state corporations in Kenya accounting for 43% of changes in performance. The influence of employee engagement on performance was found to be moderated by demographic characteristics of age, tenure and level of education while the relationship was found to be partially mediated by organisational commitment. The study concluded that employers should take in to account personality traits while hiring and assigning responsibilities to employees. Further, employers should create conducive conditions in the work place as this leads to acceptance of organisational goals as well as motivates employees to put in extra effort to ensure their achievement. Lastly, organisations should not only strive to have a diversified work force while also creating conditions that lowers staff turnover, but should be keen to hire people with high levels of education if they are to improve organisational performance.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

In most developing countries, the public service plays a significant role in driving economic growth, creating employment and facilitating the operations of the private sector (Akaranga, 2008). Therefore, most governments in Africa and other developing countries have formed state corporations to focus on developing strategic sectors of the economy, maintain employment and raise levels of savings (Anastassiou & Doumpos, 2000). In Kenya, the role of state agencies in economic development was formally anchored in policy through sessional paper number five of 1963 (Republic of Kenya, 1965).

The performance of the public service have however been criticised due to perceived inefficiencies and slow service delivery (Kobia & Mohammed, 2006). In response to the criticism, state corporations use the not for profit orientation to justify their non-performance (Mwaura, 2008). However, the public service continues facing enormous pressure to improve service delivery, lower cost and become more accountable to taxpayers (Metawie & Gilman, 2005). The demand for quality services against non-increasing and in some cases diminishing resources has ensured that the desire to improve service delivery and deliver value for tax revenue invested in public service in general and in state corporations in particular continues to occupy a central place within government policy and public discourse (RoK, 2013).

In response to performance challenges experienced in the public service, the government of Kenya has over the years implemented various public service reforms (RoK, 2013). Some of the notable reforms introduced over the years are: divestiture, privatisation, staff rationalisation, governance and performance contracting (Kobia & Mohammed, 2006; Keraro & Gakure, 2013). The latest effort aimed at addressing perceived service delivery challenges in state corporations was appointment of a presidential taskforce to advise the government of Kenya (GoK) on how to improve their performance. The taskforce made a raft of recommendations among them being mergers, abolition and reclassification of state corporations (RoK, 2013). It is however noteworthy that to date, most of the recommendations have not been implemented.

The recommendations of the task force like other previous interventions however scarcely addressed issues related to management of employees' relations inspite of overwhelming empirical evidence demonstrating that there is a positive correlation between employee engagement and organisational outcomes (Smith & Markwick, 2009; Albrecht, Bakker, Gruman, Macey & Saks, 2015). Employee engagement has also been linked to improved satisfaction of customers (Salanova, Agut & Perio, 2005). In an ever changing business environment, a committed and proactive work force could provide organisations with competitive advantage (Bakker, Schaufeli, Leiter & Taris, 2008).

Further, the findings of previous empirical studies on influence of employee engagement on organisational performance have produced mixed results with some studies supporting a positive correlation while others have reported no linkage. Even where the results support a correlation, the relationship have sometimes been found to be weak partly

because engagement does not affect organisational performance directly but do so through other variables that predict performance (Chughtai, 2008).

Researchers have posited that employees' performance is influenced by their perception of the benefits that the organisation provides to them (Wright & McMahan, 2011). Employees will be committed to organisational goals if they have a positive perception of fairness at workplace (Ponnu & Chuah, 2010). In addition, organisational commitment is linked to work values, work involvement and employees' motivation (Lee & Chen, 2013). Organisational commitment has been found to influence organisational performance (Khan, Ziuddin, Jam & Ramay, 2010; Lee & Chen, 2013; Irefin & Mechanic, 2014).

In addition, demographic characteristics of the workforce have been found to moderate the influence of employee engagement on employee job performance and by extension the organisational outcomes (Insync Surveys Limited, 2009). However, there are scanty empirical studies linking employee engagement, organisational commitment and demographic characteristics to organisational performance. Therefore, this study sought to investigate the influence of employee engagement on organisational performance and how this relationship is mediated by organisational commitment and moderated by demographic characteristics. The study is anchored on resource based and stakeholder theories and supplemented by social exchange, expectancy and work adjustment theories.

1.1.1 Employee Engagement

Employee engagement as a construct is relatively new but has gained popularity in the last two decades in the field of human resource management. However, most of the

studies related to the construct have been conducted by consultancy firms and it is only recently that the construct has attracted the attention of academic research. The construct has attracted varying definitions among researchers and practitioners while there is no consensus as to what specific factors paves way for highly engaged employees (Kular, Gatenby, Rees, Soane &, Truss, 2008; Shuch & Wollard, 2010).

The terms personal engagement and personal disengagement were introduced by Khan (1990) who posited that, employees who are engaged immerse themselves physically and emotionally in work while disengaged employees though physically present are psychologically absent while performing their work. Further, Khan (1990) posited that three conditions are necessary for engagement to take place; meaningfulness (feeling the job is worthwhile), safety (feeling that the work environment is one of trust and supportiveness) and availability (having emotional and physical means to engage). According to this line of reasoning, it is only if the three conditions are met that employee engagement take place.

Later, the conceptualisation of the construct was taken up by Maslach, Schaufeli and Leiter (2001) who posited that employee engagement is the opposite of burnout. Whereas burnout is characterised by absence of energy and emotional disinterest, engagement is characterised by vigour, dedication and absorption. Employee engagement is also related to the construct of job satisfaction but it is above and beyond it. It is associated with passion and commitment to the success of the job and organisation. Fully engaged employees will go beyond the job requirements putting up discretionary efforts to enable the organisation succeed; are less stressed, have less health issues and are more satisfied with their personal lives (Gallup Research Organisation, 2006).

Further, Marcey and Scheineider (2008) developed a conceptualisation of employee engagement composed of three categories of engagement; traits engagement (positive view of life and work), state engagement (feeling of energy and absorption) and behavioural engagement (extra role behaviour). These three types of engagements echoes what Khan (1990) had earlier developed as a model of complete engagement. In addition, Ferrer (2010) developed a model of engagement with three dimensions; emotional, cognitive and outcomes. In this model, emotional and cognitive dimensions work together to produce individual engagement outcomes. These three dimensions are equivalent to Marcey and Scheineider (2008) three categories of employee engagement.

Based on previous conceptualisation of engagement Castellano (2015) developed a new framework in which traits engagement modify the drivers of engagement and both psychological state engagement and behavioural engagement. However, according to Macey and Schneider (2008), employees who experience feelings of engagement and who demonstrate engagement behaviour are more likely to choose to work in an environment that provides opportunities to do so and hence the framework developed by Castellano (2015) has been criticised for not taking this in to account.

The conceptualisation of employee engagement is further compounded by presence of different types of engagement; work engagement, organisational engagement, personal engagement, employee engagement, role engagement, behavioural engagement and state engagement (Ferrer, 2010). In this study, the phrase, employee engagement is used to encompass engagement with the work, the role and the employer as recommended by Schaufeli, Bakker and Salanova (2006). Further, the study has adopted the conceptualisation of employee engagement from Marcey and Schneider (2008) as this

conceptualisation is well validated and is among the most commonly used (Bakker & Bal, 2010).

1.1.2 Demographic Characteristics

To manage people effectively, it is necessary to understand the characteristics that affect how they behave (Armstrong, 2006). Demographic characteristics have been defined as quantifiable statistics of specific populations and have been commonly used in many studies related to behaviour (Maina, 2014). The use of demographic characteristic in most behavioural studies is based on the belief that they are predictors of employee behaviour and by extension are related to organisational outcomes. However, different disciplines focus on specific demographic attributes. In human resource management studies; age, gender, tenure and level of education are the most commonly used demographic factors. Other demographic characteristics such as level of income and gender are more popular with other disciplines such as marketing and sociological studies.

There is lack of consensus among researchers on how to conceptualise some of the indicators of demographic characteristics. For instance, age may refer to chronological years, functional (based on physical and psychological abilities), psychological (based on social perception of capabilities, organisational (based on seniority and experience or life span which takes in to account all the other four, Stern and Doverspke (1989) as quoted by James, Mckechnie and Swanberg (2010). However, there seems to be consensus that tenure refers to length of service while gender is the state of being either male or female. There are many indicators of demographic characteristics and a researcher has to select those relevant to the study being undertaken. Therefore, in this study, demographic

characteristics is conceptualised as consisting of three indicators; age, tenure (length of service) and level of education. These three indicators are believed to be more closely associated with employee engagement than the rest and hence the decision to select them as indicators of the variable.

1.1.3 Organisational Commitment

There is considerable interest among researchers on organisational commitment (OC) based on a belief that it is correlated with productivity and outcomes such as lower staff turn-over. However, research on commitment was initially characterised by lack of conceptual agreement on what it entails since researchers focussed on different aspects. Some researcher focussed on its antecedents while others focussed on consequences and yet other on the state of being attached to the organisation (Amangala, 2013).

In the 1990s, a more universally accepted conceptualisation of commitment emerged through the works of Meyer and Allen (1991). Through their study, Meyer and Allen came up with the three components model. The components of the model are: affective commitment, continuance commitment and normative commitment. Affective commitment refers to strong emotional attachment and involvement in an organisation (Jena, 2015). As a result, the employee identifies with the organisational objectives and wants to stay. Continuance commitment refers to being aware of the cost of leaving an organisation and perceived lack of alternatives and builds upon a cost benefit analysis where the worker consciously evaluates the costs associated in remaining in the organisations versus exiting (Khan, Khan, Khan, Nawaz & Yar, 2013).

Normative commitment on the other hand denotes an obligation to continue being attached to an organisation (Jena, 2015). The employee remains in the organisation due to a sense of obligation to it (Khan, Nawaz, Yar, 2013). Meyer and Allan (1991) three component model has become universally accepted and aptly captures all the elements of organisational commitment and hence was adopted for the current study.

1.1.4 Organisational Performance

Organisational performance is widely used as a dependent variable in most organizational studies yet it is still vague and loosely defined (Rodgers & Wrights, 1998). This is because organisational performance is dependent on the interpretation of different stakeholders who in most cases have conflicting interests (Carton, 2004). Early empirical studies on the concept of organisational performance (OP) focused on; financial performance, market performance and shareholders return. However, measuring performance using these indicators was eventually challenged as they are not applicable to all organisations especially those that do not exist to maximize profits. Moreover, financial performance doesn't cover other aspects of the organisation.

To address the shortcomings of focussing on financial performance to measure performance, Kaplan and Norton (1992) developed the Balance Score Card (BSC) which expanded how performance of a firm should be assessed by adding measurement of non-financial indicators such as customer satisfaction as well as level of learning and growth. The Balance Score Card also identifies major stakeholder groups (shareholders, employees and customers) and use objective indicators of performance in regard to each of them. This tool has been widely used especially in the private sector. However, there are challenges in applying BSC to the public service due to presence of multiple stake

holders. It therefore becomes difficult to determine which stakeholders to include and which to exclude.

Therefore, a more appropriate tool is required for non-profit organisations and especially the public service. This need was addressed by Lusthaus, Andrein, Anderson and Fred (1999) who developed a performance assessment tool for International Development Research Centre (IDRC) breaking down organisational performance into four key variables; effectiveness (degree to which an organisation's activities meet customer expectations), efficiency (the degree to which an organisation optimally utilises resources), relevance (ability to adapt to changing environmental demand while satisfying the expectations of major stakeholders) and financial viability (ability of an organisation to generate more resources than it consumes).

In the private sector, performance is best measured by profitability while in the public sector, efficiency in use of tax revenue and effectiveness in meeting the expectations of the stakeholders is a better measure (Mackie, 2008). Therefore, this study adopted IDRC conceptualisation as developed by Lusthaus *et al.*, (1999) due to its emphasis on effectiveness, efficiency, relevance and financial viability which best reflects generally accepted performance indicators of the public service.

1.1.5 State Corporations in Research and Training in Kenya

State corporations in Kenya are established under the State Corporation Act and other enabling legislations. They are wholly or majority owned by the state (Njiru, 2008). They are managed by a Board of Directors appointed by the Cabinet Secretary responsible for the ministry under which they fall and on a day to day basis run by a chief executive

officer and a management team (Ongeti, 2014). They are classified into eight broad functional categories based on mandate and core functions: manufacturing/commercial, financial, regulatory, service, public universities, training and research, regional development authorities, tertiary education and training (RoK, 2004).

In recognition of the important role of research and training, the government of Kenya has established a number of state corporations in this category (NACOSTI, 2014). The classification of research and training state corporations however excludes universities and tertiary and training institution which are in their own categories (RoK, 2004; RoK, 2013). There are currently nine state corporations in research and training in Kenya (Appendix 6) after merger of several organisations within agriculture and livestock sectors to form Kenya Agricultural and Livestock Research Organisation (KALRO) in 2013 as well as establishment of Kenya School of Government as part of Vision 2030 strategic objective of streamlining agricultural and livestock research in the country and promoting retraining of the public service for effective service delivery (RoK, 2007). A new state corporations which will fall in this category; Kenya Building Research Institute is in the offing but is yet to be operationalized (RoK, 2017)

Research and training plays a very central role in a country's total factor productivity (Frantzen, 2000). In fact, disparities in research and development and higher education have been linked to disparities in economic growth (Sterlachini, 2008). Kenya's Vision 2030 has identified research and training as key drivers in the country's transformation (RoK, 2007). These corporations however face a number of challenges that negatively influence their performance. Key among these being: poor linkage with industry and poor collaboration among them; underfunding and reliance on goodwill of the donors to

sustain most of their research programmes and inadequate physical facilities, obsolete equipment as well as high rates of turnover by skilled and highly trained staff (RoK, 2007; National Museums of Kenya (NMK), 2009; KALRO, 2016).

1.2 Statement of the Problem

Kenya's economic growth is hinged on adoption of knowledge based economy. Consequently, the critical role that research, technology and innovation are expected to play in moving the country to a middle income status as well as the role of a well-trained public service in enhancing efficiency and effective service delivery have been aptly captured in the country's economic blue print; Vision 2030 (RoK, 2007). However, the performance of the public service in general and of state corporations in particular has been a matter of great concern to the government and the general public (RoK, 2013).

A recent evaluation report by the Public Service Commission of Kenya, based on ten thematic areas which included: ensuring high standards of professional ethics; good governance; efficiency, effectiveness, economic use of resources and sustainable development; and improvement in service delivery among others found that the overall performance of the service was 70% in financial year 2016/2017 which was a marginal improvement of 2% from the previous year (RoK, 2017). The overall score for state corporations in the evaluation was 72%, while only 22% were classified as high achiever with 62% classified as medium achiever while the remaining 16% were categorized as low achievers. According to this report, the overall score of the public service on thematic area; efficiency, effectiveness, economic use of resources and sustainable development was 69% with state corporations scoring 68% on this indicator. On thematic area;

improvement in service delivery, the overall score for the public service was 46% with state corporations sector scoring 49%. These scores are not surprising considering that the public service in Kenya is characterized by low absorption of development funds, a skewed development to recurrent expenditure ratio and a low uptake of ICT (GoK, 2017).

In research and training state corporations in Kenya, most of the budgetary allocation goes towards recurrent expenditure with very little left for research and training. For instance, according to the National Museums of Kenya (NMK) biennial report (2012), the institution's average expenditure on recurrent expenditure for the years 2008, 2009 and 2010 was 800 million compared to development expenditure averaging 35million over the same period. The situation was no different at Kenya Agricultural and Livestock Research Organisation (KALRO) where in 2016/17, the allocation for research was 2863 million compared to 6762 million for personnel emolument and general management. In addition, most of research and training institutions in Kenya have a very large composition of administrative staff compared to research staff. For instance, at the defunct Kenya Agricultural Research Institute (KARI), less than 40% of employees were directly involved in research (RoK, 2007).

Performance of research and training state corporations in Kenya is further aggravated by lack of a mechanism to harness the strengths of a large number of skilled scientific staff in these institutions at national level or link research institutions with industry which stifles development of innovations (RoK, 2010; RoK, 2013). Indeed, inadequate research-extension farmer linkage to facilitate demand driven research and increased use of technologies by farmers has for instance been cited as one of the main factors hindering agricultural productivity in the country (RoK, 2010). Further, research and training

institutions in Kenya have been slow in responding to market demands for specialized courses and thus failing to equip the public service and the country with the necessary know how for economic development (RoK, 2010)

In order for the country to achieve its developmental goals, these performance challenges need to be addressed. However, previous empirical studies on performance of state corporations in Kenya have scarcely focused on the segment of state corporations in research and training while most of the studies have been done in a different context. For instance, Kiiru (2015) focused on strategic human resource practices and performance of state corporations; Ongeti (2014) investigated the relationship between governance structures and performance of state corporations while Wambua (2013) focused on performance contracting and performance of universities in Kenya. However, other than management practices, governance structures and performance management, employee's personality traits and their interaction with the work environment contributes enormously to the overall organizational performance.

There is empirical evidence that employee engagement influences organizational performance. However, the current empirical studies have not adequately addressed the moderation and mediation influences. Most of them have focused on the direct relationship; others have used tools that do not adequately measure the constructs while others have used small samples which are inappropriate for generalisation. For instance, a study conducted by Right Management (2009) on the role of employee engagement in driving organizational performance found that employee engagement has a significant influence on organizational performance. However, the study conceptualized employee engagement as consisting of four components; pride with employer, organizational

commitment, satisfaction with employer and positive advocacy of the organization. These indicators focus on the organization rather than the work itself and as posited by Schaufeli and Bakker (2010), this conceptualisation of employee engagement which is used by most consultancy firms fails to focus on the work itself. The results may therefore differ from studies that use a tool with a different focus. Further, Meyerson and Dewettinck (2012) investigated the influence of employee engagement on organizational performance in an American University. However, data was collected from one organization and thus limiting generalisability of the study findings.

In addition, there have been scarce investigations on the role of employee engagement based on the Kenyan experience and the few studies that have been conducted. For instance, Wachira (2013) investigated the influence of employee engagement on organizational commitment at Barclays Bank of Kenya while Kibui (2015) investigated the influence of employee engagement on talent retention in state corporations. However, none of the two studies linked employee engagement with organisational performance. Therefore, in order to address the gaps of previous empirical studies, this study focused on investigating the influence of employee engagement on performance of research and training state corporations in Kenya and how this relationship is moderated by demographic characteristics and mediated by organizational commitment.

1.3 Objectives of the Study

The general objective of the study was to investigate the influence of employee engagement on performance of research and training state corporations in Kenya.

1.3.1 Specific Objectives

The study sought to achieve the following specific objectives:

- i) To determine the effect of traits engagement on performance of research and training state corporations in Kenya
- ii) To assess the effect of psychological state engagement on performance of research and training state corporations in Kenya
- iii) To assess the effect of behavioural engagement on performance of research and training state corporations in Kenya
- iv) To determine the moderating effect of demographic characteristics on the relationship between employee engagement and performance of research and training state corporations in Kenya
- v) To determine the mediating effect of organisational commitment on the relationship between employee engagement and performance of research and training state corporations in Kenya

1.4 Research Hypotheses

The study was based on the following null hypotheses:

- H₀₁** Traits engagement does not affect performance of research and training state corporations in Kenya.
- H₀₂** Psychological state engagement does not affect performance of research and training state corporations in Kenya
- H₀₃** Behavioural engagement does not affect performance of research and training state corporations in Kenya

H₀₄ Demographic characteristics do not moderate the relationship between employee engagement and performance of research and training state corporations in Kenya.

H₀₅ Organisational commitment does not mediate the relationship between employee engagement and performance of research and training state corporations in Kenya.

1.5 Significance of the Study

The study objectives contribute empirical evidence that support resource based, stakeholder, social exchange, expectancy and work adjustment theories. Though the theories have their foundation in different disciplines, this study demonstrates the link between them proving that organisational studies are multi-disciplinary in nature. Further, the study is an important addition to the existing empirical literature on the influence of employee engagement on organisational performance. It has linked employee engagement, organisational commitment, demographic characteristics and organisational performance. In so doing, the study has addressed some existing gaps in empirical literature while the study findings could in future form the basis for carrying out further research.

On a practical level, the findings of this study will provide policy makers with information that underlies the importance of employee engagement in achieving organisational goals. This information could be used in designing performance improvement strategies across the public service that take in to account the role of employee engagement as a vital component in their implementation. Human resource practitioners will benefit from the findings of the study as data generated will support the

important role human resource management practices plays in enhancing employee performance and by extension that of the organisations. This information could be used to push for greater participation of human resource experts in strategic decision making in organisations.

1.6 Scope of the Study

The study sought to investigate the influence of employee engagement on performance of research and training state corporations in Kenya and how this relationship is moderated by demographic characteristic and mediated by organisational commitment. Data was collected from employees of state corporations in research and training in Kenya using two strata's; the researcher/trainers and the support staff.

The study was conducted within the republic of Kenya and covered nine state corporations classified under research and training category. This segment of state corporations was selected based on the fact that very few previous studies have been based on it yet it has a critical role to play in achieving the country's economic aspirations. It has been established that the return on investment for research generally range between 20-40% (KARLO, 2016) while increased life expectancy and increased production may be attributed to investment in research (NACOSTI, 2014) and hence the need to assess the effect of an engaged workforce on performance of such institutions.

1.7 Limitations of the Study

The public service is steeped in bureaucracy and secrecy and yet access to reliable information is crucial to any scientific study. There was reluctance in providing crucial

information from some public officers. To overcome this challenge, the researcher assured the institutional manager and the respondents of adherence to confidentiality and anonymity and that information provided was to be used solely for purpose of research and was in no circumstances to be disclosed to other parties.

The study used cross-sectional method which is known to limit the extent to which casual reference are made. This limitation was addressed by use of mixed research designs thus increasing reliability and hence making it possible to make casual inference. Finally, there are very few studies on employee engagement conducted in Kenya which made it hard in reviewing literature. To addresses this limitation, literature of similar studies conducted in other countries was used in literature review.

1.8 Organisation of the Study

The study is organised in to five chapters. Chapter one introduces the research problem while briefly describing the key variables and the scope and limitations of the study. Chapter two comprises of review of theories underpinning the study, and a critique of empirical literature and a summary of the reviewed studies and gaps identified. Chapter three covers research methodology encompassing: research philosophy and design, operationalization of study variables and data analysis and presentation. Chapter four presents research findings and interpretation of results. Lastly, chapter five presents the summary, conclusions and recommendations of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter identifies and presents a review of the theories that underpin the study and a review of empirical literature on the relationship between the key variable. Specifically, the chapter review theories and empirical studies related to organisational performance, employee engagement, organisational commitment and demographic characteristics. At the end of the chapter, a summary of reviewed studies is presented as well as a conceptual framework upon which relationships were tested.

2.2 Theoretical Literature Review

This study is anchored on resource based theory and supplemented by social exchange theory, motivation-hygiene theory and work adjustment theory. Each of the theories anchors a specific study variable.

2.2.1 Resource Based Theory

The foundations of this theory can be traced to the works of Penrose (1959) and Chandler (1962). These early scholars postulated that organizational internal resources were the most important source of organizational performance and competitive advantage. Wernerfelt in mid 1990s is credited with popularising the resource based theory (RBT). According to Barney (2002), organisations gain competitive advantage by acquiring, developing and effectively deploying resources available to them.

Competitive advantage is gained by an organisation through the internal resources owned by it (Wenerfelt, 1984). The RBV theory places emphasis on the connection between internal resources, strategy and organisational performance. However, for resources to give a firm competitive advantage, they should be inimitable and non-substitutable (Wright, McMahan & McWilliams, 2004). The strategic choices that an organisation make in identifying its unique resources and developing them is what gives it competitive advantage (Croucher, Stumbitz, & Michael, 2013).

The resource based theory has been criticised for ignoring the external environment. Porter (1991) advocated for a mixed approach that takes into account the internal as well as external influences on performance. However, RBT has been widely used by researchers to underpin studies on organisational performance. For instance, it was used by: Mulabe (2009); Kiiru (2015) and Kibui (2015). It is a very useful theory in understanding how an organisation's unique strengths give them competitive advantage that ensures their continued performance relative to their peers.

Using this view, organization ability to harness its human resource capacity by improving employee engagement and organisational commitment could offer it a competitive advantage. Thus, the resource based theory with its emphasis on resources being the source of a firm's competitive advantage provides a suitable theory to anchor both the dependent variable, organisational performance as well as the independent variable; employee engagement. However, due to the limitations of this theory, it was supplemented by other theories as advocated by Porter (1990).

2.2.2 Stakeholder Theory

The stakeholder theory is associated with Freeman (1984) who identified the role of stakeholders in relation to organisations. The thrust of this theory is that managers should be aware that organisations do not exist solely for the benefit of shareholders. There are multiple players who have an interest in the firm and whose interest ought to be taken in to account. Proponents of the theory further posit that there is interconnectedness of the various stakeholders and failure to balance the interests of the various groups may affect the organisation (Freeman, 1984) and that stakeholders have legitimate interest in organisational outcomes (Donaldson, 1995).

The stakeholder theory attempts to identify critical stakeholders who deserve or require attention for the success of the firm (Bourne, 2005). The organisation is seen as a centre of networks of stakeholders which creates value by meeting needs of most important stakeholders in a win-win fashion (Mori, 2010). For an organisation to succeed, management must understand and be able to some degree of success meet or manage the interest of different stakeholders (Ekpobomene, 2012).

State corporations exist to deliver service to the public and not for the sole purpose of creating jobs for those running them. It is important that in performing their functions, the legitimate interests of their stakeholders are taken in to account. Donaldson and Preston (1995) posit that the interest of each organisational stakeholder are of intrinsic value and deserve consideration. Most managers actually believe that it is unethical to work for the interest of shareholders and not in the interest of employees and customers. The purpose of an organisation is to serve as a vehicle that coordinates the interests of the various

stakeholders and therefore success in satisfying them constitute the ultimate test of corporate performance (Evan & Freeman, 1988).

Therefore, state corporations in research and training in Kenya should engage with all relevant stakeholders through information exchange as a way of ensuring that they understand the changing needs of the stakeholders. As posited by Buytendijk (2009), an organisation is a unique collaboration of different stakeholders who come together to pursue goals which none of them could have achieved alone. When organisations pursue their mandates without stakeholder input, possibility exist that the goals may not only not be aligned to stakeholder interest but may actually be harmful. To address such a scenario, the Constitution of Kenya 2010 (RoK, 2010) has made it mandatory for public institutions in Kenya to involve stakeholders in decisions that affect them.

The stake holder theory has become crucial in performance management as organisational performance is today explained by the value that an organisation brings to its stakeholders (Kaplan & Norton, 1992). The performance of state corporations in research and training should be viewed from the perspective of meeting the legitimate interests of their various stakeholders hence the theory has been use in the current study to underpin organisational performance. Stakeholder management leads to equitable and sustainable development as it enables better management of risks, allows for pooling of resources, enable understanding of complex business environment and builds trust (Misser S., 2014). The theory has previously been used by Ongeti (2014) to underpin the relationship between corporate governance structures and performance of state corporations.

2.2.3 Social Exchange Theory

The Social exchange theory (SET) is among the most influential conceptual paradigms for understanding work place behaviour (Croponzano & Mitchell, 2005). The theory has its roots in the anthropological works by Malinowski. It was popularised by by Blaus (1964) who differentiated between economic and social exchange and is therefore credited as the founder of the social exchange theory. The theory has been advanced by other researchers such as; Das and Teng (2002) who introduced alliance building which are self-centred in to the theory. Similarly, Globerman and Nielsen (2007) introduced trust as the cornerstone of interacting between parties in to the theory.

The Social exchange theory was initially developed to analyse people's social behaviour in terms of exchange of resources. Blaus (1964) posited that individuals voluntarily exhibit certain behaviour or may do certain things because of motivation of expectation for positive reciprocal behaviour from others. The expectations of payback are not explicitly expressed. Therefore, Blaus (1964) argued that social exchange requires trusting others to reciprocate. Humans in social situations choose behaviour that maximises their likelihood of meeting self interest in those situations.

Eisenberger, Armeli, Rexwinkel, Lynch and Rhoades (2001) posited that employees' feeling an obligation at work is important as it compels them to repay advantageous treatment received from employer. Perceived organisational support concern the extent to which employees perceive that their contributions are valued by the organisation. Justice at workplace is perceived as creating conditions necessary for employee engagement. Further, Croponzano and Mitchell (2005) posited that greater justice perception is related to employees performing effectively and contributing to organisational success. Engaged

employees invest time and energy in the belief that their investment will be rewarded in a meaningful way.

Critics of SET have argued that the theory assumes that people are rational and will always act in rational ways. Reality is that people sometimes act in irrational ways; hence one should be cautious when applying the theory to workplace. However, the social exchange theory is a useful model in advancing studies on employee engagement due to its focus on reciprocal relationship between employer and employees. Employees exert best effort in the service of the employer in the hope that there is reciprocal action. Blaus (1964) postulated that, as long as both parties derive benefits from doing good to each other, the relationship is sustained. Therefore, SET is an important theory to anchor employee engagement.

2.2.4 Expectancy Theory

The expectancy theory was developed by Vroom (1964) who posited that the tendency to act in a certain way depends on the strength of an expectation that an act will be followed by a given outcome and on the attractiveness of that outcome to the individual. If an outcome is favorable, this will lead to a behavior being repeated while unfavorable outcomes lead to avoidance of such an action (Robbins, 1991). Individuals will be motivated when their efforts results in desirable outcomes (Denhardt, 2008). The attractiveness of the reward to the individual determines how much energy is expended in achieving the goals. Individual must know in an unambiguous way what is expected to achieve the goal. Further, one assesses the probability of achieving the goal to determine whether it's worth pursuing (Robins, 1990).

The expectancy theory was refined by Porter and Lawler (1968) who posited that over and above expectation, ability and role clarity are important factors and ought to be taken in to account. Using the expectancy view, managers should choose appropriate reward of value for different groups of workers if they hope to make employees committed to the organisation and its mission and vision. Commitment of each worker depends on what they consider to be the benefits of their continued stay in the organisation.

Since its development, the expectancy theory has been widely used to explain human behaviour in organisations (Spector, 2003). Although the theory has its critics, there exists enough empirical evidence to support its argument (Robbis, 1991). Researchers have posited that the strength of expectancy theory lies with taking in to account individual differences in behaviour and motivation (Buchanan & Huczynisk, 2004). Therefore, the expectancy theory has been used in this study to anchor organisational commitment. Employees commitment to the organisation is based on the value they attach to the outcomes they expect from it based.

2.2.5 Work Adjustment Theory

The Work adjustment theory was proposed by Dawis and Lofquist (1984) as a result of a work adjustment project conducted at the University of Minnesota in 1957 (Waskiewicz, 1999). The theory is based on the premise that, satisfaction with work results from the individual interaction with the work environment. The relationship is symbiotic with the worker meeting the work environment needs while the work meets financial, emotional and social needs of the employee. For this relationship to be maintained, both parties must keep adjusting to the needs of each other.

This adjustment is best exemplified by Herzberg (1957) as quoted by Waskiewicz (1999) who theorised that the relationship between age and job satisfaction is curvilinear. Employees enter the job market with the expectations that their efforts will be rewarded. However, in practice, rewards occur less frequently. This creates disenchantment in the worker. Over time however, the employee learn to accept this as normal and adjusts expectations resulting to work satisfaction. Dawis and Lofquist (1984) as quoted by Waskiewicz (1999) posited that work adjustment is a continuous process predicted by matching work personality with the work environment.

Workers enter into long term relationship with the organisation where their earning rise in most cases with age even though this is not related to rising productivity (Lazears, 1979 as quoted by Ours & Stoeldraijer, 2010). Therefore, the relationship between age and productivity and age and compensation support the work adjustment theory. The theory acknowledges that workers are satisfied by different things (Anderson, 1982 as quoted by Waskiewicz, 1999). Therefore, the Work adjustment theory is suitable in anchoring studies on demographic characteristics and hence its choice in this study to underpin the moderating role of demographic characteristics on the relationship between employee engagement and organisational performance.

Table 2.1 Summary of Theoretical Review

Theory	Proponent	Focus	Contribution to the current study
Resource Based	Penrose (1959) and Chandler (1962)	Managing organisation's internal resources for competitive advantage	Focus attention to the strategic benefits gained from proper management of human resource
Stakeholder	Freeman (1984)	Organisational performance should be measured by the extent to which it meets the interests of different stakeholders	Theory helps in understanding the performance of state firms that mostly exists to offer services to the citizens
Social Exchange	Blaus (1964)	Reciprocal relationship between employee and employer as the foundation of a mutually beneficial relationship	Theory helps in understanding the impact of fair labour practices on employee productivity and by extension on organisational performance
Expectancy	Vroom (1964)	That employee motivation is based on expectation that their action will be followed by a favourable reward and the value they attach to it	Theory helps in understanding the relationship rationale behind organisational and why it differs among individuals
Work Adjustment	Dawis & Lofquist (1984)	Work satisfaction results from individual interaction with the work environment	Theory helps in understanding how demographic characteristics shape employee reaction to the organisation's policies

Source, Author (2018)

2.3 Empirical Literature Review

The focus of this section is on review of empirical literature related to the study variables while identifying empirical gaps that the current study seeks to fill.

2.3.1 Traits Engagement and Organisational Performance

It is widely believed that possession of certain traits predispose individuals to certain characteristics that affect their performance (Le, Oh, Robbins, Illies, Hollard & Westrick, 2011). For instance, conscientious employees are believed to be hard working, dependable, responsible and organised (Jackson, 2014). These personality traits are believed to contribute positively to organisational performance. Further, employees with low emotional stability are believed to be moody, prone to stress, have low self-esteem and inadequate coping strategies and hence are less productive which negatively influence organisational performance.

A study carried out in Iran on personality characteristic of school principal and performance found that personality traits of introversion and extraversion have a positive influence on organisational performance while extroversion have been found to lead to low levels of performance (Ali, Azizollah, Zaman, Zahra and Mohtaran (2011). Nevertheless, personality is said to be modified by the environment and the individual capacity to engage hence the need to have other variable that leads to engagement in the same study to determine the interplay between personality and other predictors of performance.

Further, the big five personality characteristics (conscientiousness, agreeableness, extraversion, openness and emotional stability) have been found to be correlated with employees' performance through their influence on employees' adaptive behaviour (Echchakoui, 2013; Ghani, Yunus & Bahry, 2016). However, the influence of personality traits is modified by organisational environment and individual commitment and hence

the need for further investigations on the influence of traits on organisational performance while factoring demographic characteristics and organisational commitment.

Another study on the influence of emotional intelligence on performance found that the relationship is mediated by personality traits (Jackson, 2014). People with positive emotions were found to exhibit broader scope of attention which was linked to higher output and by extension, performance. In addition, the study found that emotional intelligence predicts work engagement as effective management of emotions, social skills and self-control leads to improved performance. However, this study was based on a sample of one institution; San Jos University in California and may not be used to make generalisation.

Other studies have shown that supervisors who exhibit traits of being mindful of employee wellbeing are associated with employee outcomes such as job satisfaction, need satisfaction and organisational citizenship behaviour (Reb, Navayanan & Chaturvedi, 2014). These outcomes are closely associated with organisational performance. Further, Albrecht, Bakker, Grumman and Macey (2015) found that selection of candidates with specific personality traits that predicts engagement, results in having higher levels of employee engagement when other institutional factors such as performance management processes and learning and development opportunities.

2.3.2 Psychological State Engagement and Organisational Performance

According to Khan (1990) for employee engagement take place, three perquisites conditions ought to be met; the job has to worthwhile, the work environment should be

supportive and based on trust and the employee should have emotional and physical capacity to engage. These conditions are influenced by the organisation's human resource management practices (HRMP) which are positively related to psychological empowerment that results to intrinsic motivation and increased work performance and organisational outcomes (He, 2014). Employee engagement is therefore a product of a healthy work culture and institutional support.

Job autonomy and cognitive ability and job related skills among employees have been found to influence job performance (Morgeson, Klinger and Hemingway, 2005). Individuals with greater discretion in their work were found to be more likely to expand their jobs beyond the job description. Possession of necessary job skills gives employees the confidence to add more tasks. Autonomy and constant feedback from supervisors are positively related to work engagement which in turn was found to influence performance (Bakker and Bal, 2010). However, Morgeson, Klinger and Hemingway (2005) collected data from employees of only one organisation while Bakker and Bal (2010) used a relatively small sample of 54 Dutch teachers and hence both studies lack in generalizability.

Another study by Grants (2008) on task significance found that it increases job dedication and cooperative behaviour among employees by enabling employees to find meaning in their work leading to more involvement. This elicits discretionary effort from the employee and thus positively influences performance. However, job involvement does not affect performance directly but do so through its impact on other outcomes such as organisational commitment (Chughtai, 2008) and hence the need to test the effect of task

significance on organisational performance while including a mediator such as organisational commitment.

Further, a study by International Labour Organisation (ILO) (2013) found that there is a positive relationship between good work practices such as occupational safety and health, wages, working time and training and organisational performance. Good working conditions reduce labour turn-over; contribute to higher discretionary efforts by employees and higher levels of customer satisfaction. These outcomes have a big impact on organisational effectiveness, financial performance and its effectiveness. Similar findings were found by Wright, Gardener, Moynihan and Allen (2004) who established that superior human resource practices increases employees discretionary efforts.

Studies based on trust between employee and the manager and especially the immediate supervisor found that trust affects employees' output. Employees who perceive that they are trusted normally exhibit positive behaviour that supports organisational outcomes. For instance, Brown, Gray, Mchardy and Taylor (2011) in a study on trust and performance found that higher levels of trust are related to positive financial outcomes, labour productivity and product and service quality. Similar findings were reported by Salamon and Robinson (2011); Paliszkievicz (2012); Usikalu, Ogunleya and Effion (2015). However, for employee engagement to occur, trust alone is not sufficient as one must also have the capacity to engage and the job should be worthwhile as posited by Khan (1990). Therefore there is need for a study that is based on all the three conditions necessary for engagement to take place.

Other studies have found that job characteristics, role clarity, material adequacy, teamwork, job security, fairness and perceived organisational support are correlated with employee engagement and organisational citizenship behaviour (Owor, 2016). The presence of these conditions creates the necessary preconditions for employee engagement. This study however focussed on antecedents of engagement without linking it to organisational performance.

2.3.3 Behavioural Engagement and Organisational Performance

The effectiveness of skilled employees is limited if they are not motivated to perform (Delaney & Huselid, 1995). Employees with the necessary engagement traits and those that work in a supportive environment exhibit extra role behaviour which includes: proficiency, adaptability, resilience, innovation and organisational citizenship behaviour as drivers of organisational outcomes. These employees have a sense of ownership of the job and more trust in the organisation (Adancelik, Iraz, Cakici & Celik, 2014).

In a study based on effect of empowerment on employee performance, Meyerson and Dewettinck (2012) found that empowering employees increases performance. Using delegation, participatory management, encouragement and reward to conceptualise empowerment, the study found that each of the variables was positively related to organisational outcomes confirming the widely held belief that empowerment is a predictor of performance. However, this study used a sample based on one organisation and its findings may therefore not be used to make generalisation.

Employees who have capacity and latitude to redefine their roles have been found to exhibit high levels of work commitment which in turn has been found to be positively related to performance (Bakker, Tims & Derks, 2012). Further, Celeik, Iraz, Casiki and Celik (2014) found that empowered employees have higher levels of creativity. They use their discretion to solve complex challenges that they encounter in performing their daily tasks. Similarly, Malik (2013) found that efficacy, optimism and resilience influences organisational performance.

There is ample empirical support on correlation between employee engagement and organisational performance. However, there have been divergent findings. For instance, Kariuki and Murimi (2015) based on a study on employees of Tata Chemical Magandi Limited found that job autonomy and decision making latitude has no significant influence on organisational performance. The findings of the study however apply to a localised situation as the sample was composed of employees of one organisation only.

Empirical literature on influence of behavioural engagement and organisational performance is inconclusive. Though most scholars seem to support the existence of a positive relationship, there is need to investigate the relationship further to include moderation and mediation effect to better account for changes in performance associated with employee engagement.

2.3.4 Employee Engagement, Demographic Characteristics and Performance

There is general interest among researchers on whether the relationship between employers and employees is influenced by demographic characteristics and whether the

factors that lead to job engagement and performance among the different groups are the same. The rule of thumb has been that demographic characteristics influence job performance. For instance, it is generally held that individual performance decreases around fifty years which contrasts with increases in wages for more experienced mostly older workers (Skirbekk, 2003).

Early studies on influence of demographic characteristics on performance have mostly relied on supervisor ratings indicating that older workers are less productive than younger ones (Medoff & Abraham, 1981 cited in Castellucci, Padula & Pica, 2009). Most employers and employees also believe the rule of the thumb that average productivity decline with age (Johnson, 1993 cited in Castellucci, Paduka & Pica, 2009). However, age is a poor predictor of performance as it is less important than individual skills. In addition, motivation of older people differs from that of younger employees. The relationship between age and performance also depend on the dimension of performance being investigated and the type of job and industry that work is being performed (Gobel & Zwick, 2009).

Older workers have been found to be more satisfied with their work possibly because they have more attractive jobs and rewarding pay which lead to positive organisational outcomes (Mitchell, Levine & Pozzebon, 1990). In some jobs, productivity declines at a relatively early age. For instance, Castellucci *et al.*, (2009) found that productivity of Formula one driver's is at its peak between 30-32 years and decreases rapidly thereafter. Other studies have used a wider range. For instance, Van and Stroelfraijer (2010) found that productivity is highest between the ages 30-45 and is normally lower before and after that age. These findings need to be reviewed against the requirements of each job as

posited by Johnson (1994) as cited by Van and Stroelfraijer (2010) as each job category requires different physical, mental and psychological conditions.

The drivers of employee engagement for different career stage, gender and tenure have been found to be different. For instance, the levels of emotional engagement among female employees is related to day to day process and procedures while that of male employees is usually driven by organisation's long term strategies and goals (Insync Surveys Limited, 2009). Further, new employees were found to value their relationship with immediate supervisor while long tenured employees are more concerned with the long term survival of the organisation. The study however did not link employee engagement with organisational outcomes which will be addressed in the current study.

Further, Wilson (2009) found no differences in engagement based on age, gender and tenure. James, Mckechnie and Swanberg (2010) found that employee engagement is driven by the same factors across different age and tenure. Ruslan, Islam and Noor (2014) found that engagement varies with age but is not affected by tenure. Employees below the age of forty have been found to have lower levels of work engagement compared to those in the age bracket between 40-49 (Kisian, Catsouphe, Bhate, Lee, Carapinha and Minnich, 2011). The study concluded that work engagement vary with age but found no evidence of change associated with career stage. The study however did not link engagement and demographics characteristics to organisational performance.

In another study focusing on demographic factors and organisational commitment, Jena (2015) found that there is significant difference in continuance commitment based on gender. Male employees were found to have higher levels of affective commitment while

female have higher levels of normative commitment. The study also found significant correlation between tenure and affective commitment. On the whole, male employees were found to have higher organisational commitment than female. These findings have to be put in proper context. The study was based on shift work while in most societies, it is women who take care of the children and hence would find shift work disruptive and this may account for the differences in commitment between genders found in this study.

There have been contradictory findings on the relationship between level of education and commitment with some studies reporting negative correlation while others have reported a positive relationship. Iqbal (2010); and Glisson and Durick (1998) as quoted by Jena (2015) found that levels of commitment decline with levels of education. This may be explained by the fact that employees with higher levels of education have more opportunities for employment. Gallie and White (1993) as quoted by Amanagala (2013) found that highly educated employees have higher levels of task commitment.

Moreover, demographic characteristics have been found to have a positive influence on organisational commitment (Amanagela, 2013). Further, Nawaz and Kundi (2010) posited that qualifications are directly related to organisational commitment and productivity as more educated employees are in a better position to understand the organisational mission and vision and are better equipped to support its achievement. It may however be argued that one may be committed to the job but not the organisation and hence the need to investigate the influence of the moderating role of organisational on the relationship between employee engagement and organisational performance.

The debate on influence of demographic characteristics on engagement and job performance is inconclusive while researchers have come up with conflicting findings.

Additionally, very few studies are based on developing countries hence there is need for more investigations on moderating role of demographic characteristics on employee engagement and organisational performance.

2.3.5 Organisational Commitment and Organisational Performance

Committed employees are a source of competitive advantage to an organisation due to their acceptance of the values of the organisation and their willingness to commit to them. This in turn leads to higher levels of job performance which produces superior organisational performance as demonstrated by a number of empirical studies.

Normative and affective commitments have been found to be positively related to performance while the relationship with continuance commitment has been found to be negative (Khan, Ziaddin, Jam & Ranay, 2010). Further, Dixit and Bhati (2012) found all the three types of commitment to be positively related to productivity. Lee and Chen (2013) found no relationship between job commitment and job attitude and between job attitude and service quality. Memari, Mahdieh and Marnani (2013) found positive relationship between employee commitment and organisational performance. However, employees may be committed to the job itself and not the organisation and hence the need to test all the three indicators of organisational commitment in one study.

Organisational commitment has been found to be based on the profession. Tolentino, (2013) for instance found that universities academic staffs have higher levels of affective and normative commitment while administrative staff have higher levels of continuance commitment. Affective commitment was found to be related to job performance among

academic staff whereas this was not the case with administrative staff. However, this study was only limited to academic and administrative staff in a university setting and hence the need to have a study covering different organisations and professions to shed more light in to this relationship.

Current empirical studies on relationship between organisational commitment and performance have been inconclusive and the findings are at times contradictory. Further, most studies on organisational commitment have investigated its influence on employee job performance without connecting it to organisational outcomes. In addition, the focus of most studies is on the direct relationship between organisational commitment and organisational performance with very little attention being given to the mediating influence of organisational commitment on the relationship between other interventions and organisational performance and hence the focus of the current study.

2.3.6 Employee Engagement and Organisational Performance

Competition between organisations either for talents or for customers is becoming more and more stiff while the advantages of technology and structure are being eroded thanks to emergence of information technology. Hence, employee engagement has become a new frontier for empirical investigations of variables that influences organisational performance. Previous empirical studies have linked employee engagement to positive business outcomes.

Employee engagement have been found to have an effect on critical business success factors such as customer satisfaction, employee turnover, employee commitments and

other related constructs which in turn affects organisational performance (Right Management, 2009). However, the tool used to measure employee engagement which was composed of four indicators; pride with employer, satisfaction with employer, organisational commitment and advocacy focus on the organisation rather than the work itself. This as has been pointed out by Schaufeli and Bakker (2010), is a major weakness of conceptualisation of the construct of employee engagement by consultancy firms.

Another study conducted by a Canadian consultancy firm, Psychometric Limited (2011) found that most employers believe that engaged employees are willing to do more, have higher productivity and positive work relationships. However, the study findings were based on perception of human resource managers and not the employee themselves. Assessing engagement is best conducted by asking the employees themselves rather than through proxy. Employees are best placed to tell their how they feel about the work they do and the organisations they work for.

Further, Harter, Schmidt, Schimidz, Killham, Angawal and Plowman (2013) in a study on relationship between engagement and organisational outcomes found that there is strong correlation between employee engagement and customer loyalty, productivity and profitability, turnover, employee and customer safety incidences, absenteeism, shrinkage and defects. The correlation was found across different organisations. In addition, the study found that the differences in organisational outcomes (productivity, customer loyalty, profitability, employee turnover, safety incidences, shrinkages, and absenteeism and product defects) between top performing and bottom performing organisations are very pronounced implying that the influence of employee engagement on business success is significant.

In Africa in general and Kenyan in particular, very few studies have focussed on the role of employee engagement and its influence on organisational performance. For instance, Wachira (2013) found that employee engagement influences organisational commitment while Kibui (2015) found that employee engagement affects talent retention. However, both studies failed to link employee engagement with organisational performance a gap that the current study seeks to address.

Most managers are aware that employee engagement is crucial and linked to business success (Harvard Business Review, 2013), however, the levels of employees' engagement worldwide are very low (Kular *et al.*, 2008) with only one in three employees being engaged (Right Management, 2009). Further, much of the literature on engagement is not available for individual scrutiny as it is not available in referenced journals as most of it is conducted by consulting firms (Vance, 2006). Such literature has not been subjected to rigorous scrutiny applied in academic research and hence necessitating further studies.

2.4 Summary of Literature Reviewed and Research Gaps

The literature reviewed indicates that most of the previous empirical studies on employee engagement have identified the drivers of engagement but have not linked it to organisational performance. In addition, most of the empirical studies on employee engagement and organisational commitment have mostly been on its direct relationship. For instance on; organisational commitment and organisational performance; employee engagement and organisational commitment and between employee engagement and organisational performance but little attention has been given to the moderation and mediation effect.

Further, previous empirical studies on the influence of employee engagement on organisational performance have been conducted either in the private sector or in developed countries while little has been done on the public service in developing countries such as Kenya. The current study therefore addressed this apparent gap in empirical literature by linking employee engagement with organisational performance while at the same time establishing the mediating role of organisational commitment and the moderating effect of demographic characteristics on the relationship.

Furthermore, there have been contradictions in empirical findings on the influence of employee engagement and organisational commitment on organisational performance. While some studies have found correlation between employee engagement and organisational performance and between organisational commitment and organisational performance, other has found the relationship not to be significant. In addition, studies on the moderating role of demographic characteristics have been inconclusive.

Finally, the literature review found the methodology used not to be adequate in some of the studies. For instance some of the samples selected were too small involving only one organisation, while some of the studies used non probability sampling thus limiting the generalizability of their findings. Therefore the identified gaps in empirical research formed the basis for the current study which aims at addressing the identified gaps and contradictions.

Table 2.2 Summary of Research Gaps

Author(s)	Topic	Findings	Research gaps	Focus of the current study
Morgeson, Klinger & Hemingway (2005)	Influence of job autonomy and job skills on job performance	Autonomy and job skills are significantly related to job performance	Performance was assessed using very subjective measures	Study used validated objective measures of performance
Grants(2008)	Influence of task significance on job performance	Increasing task significance is correlated with job performance	Study considered only one indicator of EE	Study based on a wide indicators of EE and their relationship with OP
Right Management (2009)	Role of employee engagement in driving organisational performance	That there is a positive relationship between employee engagement and organisational performance	The study assessed employee engagement using a tool that did not adequately represent it	The study used a universally accepted EE measurement (UWES) tool which is well validated
Castellucci, Paduka & Pica (2009)	Age and productivity among rally drivers	Productivity peaks at an early age before declining	Used only one category of work limiting generalisability	Study was conducted among different professions and organisations
Insync Surveys (2009)	Drivers of EE	EE drivers depend on the demographic characteristics	EE and DC not linked to organisational performance	Variables linked to OP
Khan, Ziaddin, Jam & Ramay (2010)	Impact of organisational commitment on job performance	Normative and affective commitment positively related to performance while relationship is negative with continuance commitment	Study focus was limited to direct relationship between OC and OP	Broad study investigating direct, moderated and mediated relationship between EE and OP
Kisian, Catsouphe, Bahate, Lee, Carapinha & Minnich (2011)	Effect of age on job engagement	Older employees are more engaged than younger employees	Study focussed on antecedents of EE but not outcomes	Focus is on outcomes of interaction of age and EE which is OP

Ali, Azizollah, Zahra & Mohtarrah (2011)	Influence of personality traits on job performance	Positive relationship between traits and job performance	Study was limited to the direct relationship between personality and organisational performance	Study included mediators and moderators in relationship between traits and organisational performance
Azizollah, Zaman, Zahra, & Mohtaran (2011)	Relationship between personality traits and performance of school principals	Traits are correlated to organisational performance	The influence of traits is modified by demographic characteristics and work environment	Study included both moderators and mediators that may affect relationship between traits and performance
Meyerson & Dewettinck (2012)	Effects of implementation of EE strategies on OP	Engagement is positively related to OP	Findings based on one organisation	A representative sample involving several organisations used
Echchakauri (2013)	Personality traits job performance in call centres	Traits influence adaptive behaviour which is correlated to job performance	Purposively selected sample	Sample selected using random method hence findings could be used to make generalisation
Lee & Chen (2013)	Relationship between commitment, attitude and service quality	No relationship found	Service quality is a very narrow indicator of performance	Several indicators of performance were used making the results more acceptable
Wachira (2013)	Employee engagement and organisational commitment	EE has a positive relationship with organisational commitment	EE and OC are not linked to organisational performance	The relationship between EE and OC are linked to OP
Tolentino (2013)	Impact of organisational commitment on job performance in institutions of higher learning	Different groups have different types of commitments	The study focus was narrow as it involved the direct relationship between OC and OP	Adopted a broad model in which OC is a mediator on the relationship between EE and OP
Harter, Schmidt, Killham & Agrawal (2013)	Relationship between employee engagement and business outcomes	EE is positively correlated with business outcomes	The focus is only on direct influence of EE on business outcomes	Focus on both direct and mediated and mediated relationships

Johnson (2014)	Mediating effect of traits on emotional intelligence	Higher intelligence positively influence emotional management and performance	Study only covered one organisation and therefore cannot be used to generalise	Study based on a wider representative sample consisting several organisations
Albdour & Altarawneh (2014)	Relationship between employee engagement and organisational commitment in banking sector in Jordan	EE was found to be positively correlated with organisational commitment	Use of non-probabilistic methods in selection of sample	Study based on randomised sampling in selection of sample
Jena (2015)	Influence of demographic factors on organisational commitment among shift workers	Male workers found to have higher levels of organisational commitment compared to female workers	Shift work pose a specific challenge to women and therefore the findings may not apply to all types of job situations	Study based on regular work performed during regular hours
Kibui (2015)	Influence of EE on talent retention	EE found to influence staff turnover	Study does not link EE to performance	Study based on influence of employee engagement on organisational performance
Owor (2016)	Influence of HRMP on organisational performance in Uganda	The job, working conditions and institutional justice affect employee commitment	Study was based on the private sector and findings may not apply to public sector	Study based on research and training state corporations in Kenya

Source: Author (2016)

2.5 Conceptual Framework

Figure 2.1 presents the conceptual framework depicting the relationship among the study variables; employee engagement, organisational commitment, demographic characteristics and organisational performance.

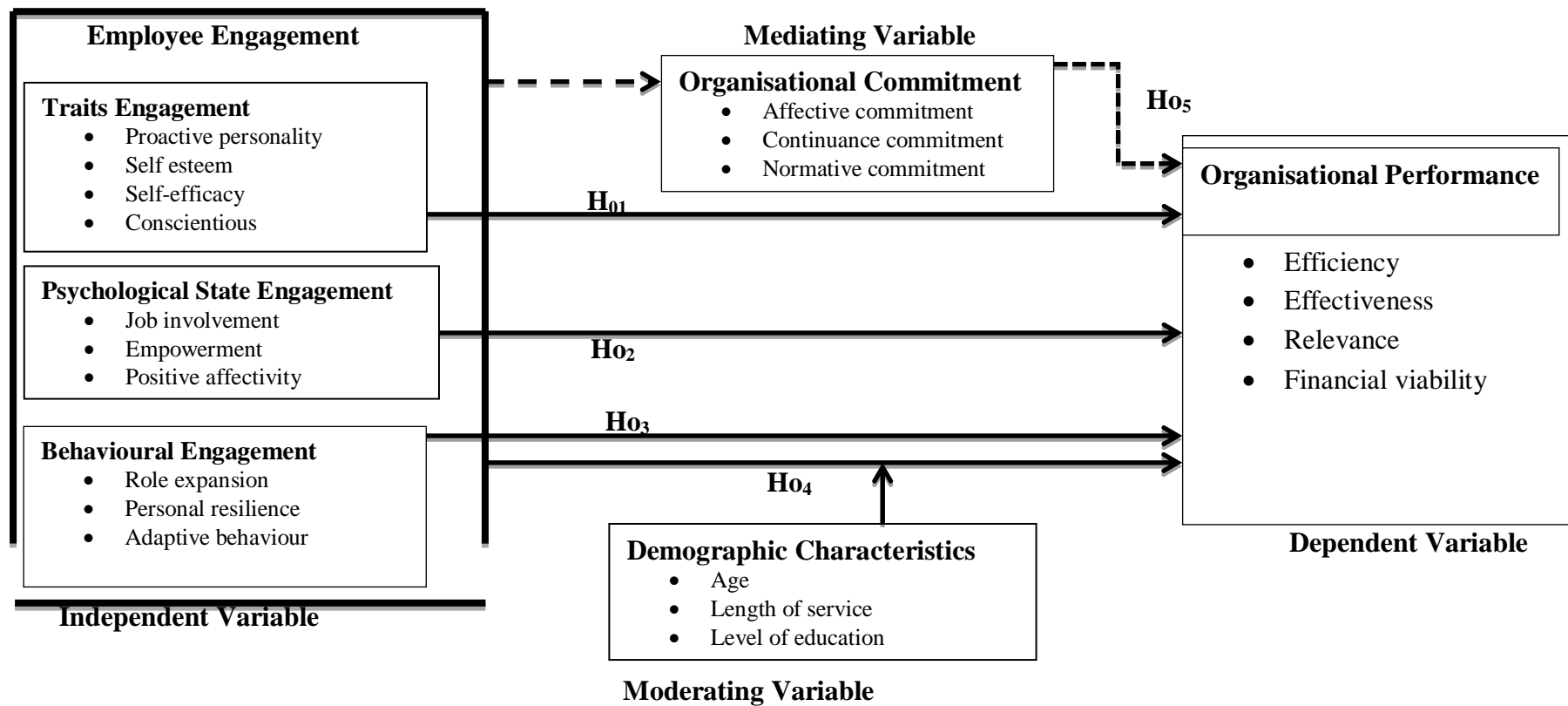


Figure 2.1: Conceptual Framework
Source: Author (2016)

Based on the conceptual framework presented in figure 2.1, the independent variables; traits, psychological state and behavioural engagements are hypothesised to influence organisational performance. Each of the variables was measured using composite index of its indicators. The relationship between each of the independent variable and the dependent variable was tested by the following hypotheses **H₀₁**, **H₀₂** and **H₀₃**.

Demographic characteristics were hypothesised to moderate the relationship between employee engagement and organisational performance (**H₀₄**). The variable was measured using three indicators; age, years worked in the organisation and level of education. The study developed three sub-hypotheses to assess the moderation of each of the indicators. They are as follows;

H_{04a}: Age does not moderate the relationship between employee engagement and performance of research and training state corporations in Kenya

H_{04b}: Years served in an organisation does not moderate the relationship between employee engagement and performance of research and training state corporations in Kenya

H_{04c}: Level of education does not moderate the relationship between employee engagement and performance of research and training state corporations in Kenya

The fifth objective of the study sought to assess the mediating effect of organisational commitment on the relationship between employee engagement and organisational performance (**H₀₅**). Composite scores for the three variables were computed and the relationship between the variables (**H₀₅**) was tested using hierarchical regression.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology that was used to achieve the objectives of the study. It covers research philosophy, research design, empirical model, target population, data collection procedures and analytical models.

3.2 Research Philosophy

The philosophy adopted by a researcher is influenced by practical considerations the main one being ones view of the relationship between knowledge and the process by which it is developed (Saunders, Lewis and Thornhill, 2007). Research epistemology can be based on two extreme philosophies; positivism and phenomenology. Positivism is based on the assumption that the observer is independent of what is being observed and measurement should be through objective criterion rather than being inferred subjectively (Mugenda & Mugenda, 2003). Positivism is derived from natural sciences and is characterised by testing of hypothesis developed from existing theories through measurement of observable social reality (Flower, 2009).

Positivism presumes the social world exists objectively and externally and that knowledge is valid only if it is based on observations of this external reality. It posits that theoretical models that are generalizable can be developed, can explain cause and effect relationships, and which lend themselves to predicting outcomes. Phenomenology on the other hand contends that there is fundamental difference between natural science and social science. Its proponents posit that individuals and groups make sense of their world

based upon their experiences, memories and expectations (Flower, 2009). Meaning is constructed and reconstructed depending on one's experiences. This approach results in many different interpretations. This paradigm requires one to understand the reason why things are as they are.

The study was anchored on positivism paradigm as it was found to be the most suitable in achieving the study objectives. Using this approach, the study tested hypotheses that were derived from objective review of empirical literature. Testing was conducted using data that was collected using scientific methods thus ensuring objectivity. Data analysis was the basis for either rejecting or not rejecting the null hypotheses.

3.3 Research Design

There is no single research design that exists in isolation (Saunders, Lewis & Thornhill, 2007). To increase validity of the findings, a researcher may choose to use more than one design. In this study, both qualitative and quantitative data was collected which ensured that in-depth analysis of the relationship between the variables was achieved. Thus, the study used both descriptive and explanatory research designs.

The overall purpose of a descriptive design is to provide information on population characteristics and testing of hypothesis (Cooper & Schilnder, 2008). It seeks to establish who, what, where, when and how much of the event. Explanatory design on the other hand investigates cause and effect relationships among the different variables (Saunders, 2009).

The combination of the two research designs enabled the researcher to achieve the study objectives which was investigating the influence of employee engagement on performance of research and training state corporations in Kenya. The general characteristics of the population were captured while objective testing of hypotheses of the study was carried out. Detailed descriptions of the study variables were derived while at the same time scientific methods were used to test relationship between variables.

3.4 Empirical Model

Quantitative data analysis could be analysed using a number of models including; Logit, Probit, discriminant analysis and regression. However, some of the models such as Logit, Probit and discriminant analysis can only be used if the variable is binary in nature (Field, 2009). The current study had a continuous dependent variable and hence multiple and hierarchical regression analysis were found suitable. This involved having several independent variables combined in one regression as well as step by step regressions.

The first three objectives of the study were assessed using model 3.1;

$$OP = \beta_0 + \beta_1TE + \beta_2PSE + \beta_3BE + \varepsilon. \dots\dots\dots (3.1)$$

Where

OP = Composite score of organisational performance

β_0 = Intercept constant

$\beta_1, \beta_2, \beta_3,$ = Beta Coefficient

TE = Composite index of traits engagement

PSE = Composite index of psychological state engagement

BE = Composite index of behavioural engagement

ε = Error Term

The composite index of the study variables were derived by first using Confirmatory Factor Analysis to determine indicators that that met the objectives of the study while eliminating those that were not significant (Ledesma & Valero, 2007). Thereafter, the researcher used weighted averages to compute composite index using the formula below:

$$Ci = \frac{\sum fi wi I}{\sum F}$$

Where

Ci = variable composite index

F = Total number of respondents

fi = Number of respondents

Wi – Relative weight given to each indicator in the variable

I = Total number of indicators for each variable

The forth objective of the study was predicting the moderating influence of demographic characteristics on the relationship between employee engagement and organisational performance. Three steps procedure was used as recommended by Keppel and Zeddeck (2000). The first step involved regressing the composite scores for employee engagement against the dependent variable; organisational performance. The regression model to assess the influence of employee engagement on organisational performance was tested using model 3.2

$$OP = \beta_0 + \beta_4 EE + \varepsilon \dots \dots \dots (3.2)$$

Where;

OP = Organisational performance

EE= Employee engagement

ε = Error term

The second step involved introducing each of the three indicators of demographic characteristics as explanatory variables in the model and running a multiple regression using regression equation 3.3;

$$OP = \beta_0 + \beta_5 EE + \beta_6 Age + \beta_7 Edu. + \beta_8 Years\ ser. + \varepsilon \dots\dots\dots (3.3)$$

Where;

OP = Organisational performance

EE= Employee engagement

Age = Age of respondents

Edu. = Level of education

Years ser. = Years served in the organisation

ε = Error term

In the third step, the focus was to estimate the direction and effect of the moderator on the relationship between the independent and dependent variables. This was achieved by introducing the interaction term for each of the three indicators of the moderating variable and running a multiple regression using the regression model 3.4.

$$OP = \beta_0 + \beta_9 EE + \beta_{10} Age + \beta_{11} Edu. + \beta_{12} Years\ ser. + \beta_{13} EE * Age + \beta_{14} EE * Edu. + \beta_{15} EE * Years\ ser + \varepsilon \dots\dots\dots (3.4)$$

Where;

OP = Organisational performance

EE= Employee engagement

EE*age = the interaction of employee engagement and age

EE*Edu. = the interaction of employee engagement and level of education

EE*Years ser. = interaction of employee engagement and years served in the organisation

ε = Error term

The decision criteria for testing for moderation effect for each of the demographic characteristic on the relationship between employee engagement and performance of state corporations is presented in Table 3.1 and are based on Mackinnon, Fairchild and Fritz (2007)

Table 3.1 Decision Making Criteria for Moderation Variable

Coefficient	Decision
β_{13} in model 3.4 is not significant but β_6 in model 3.3 is significant	Age is an explanatory variable
β_{14} in model 3.4 is not significant but β_7 in model 3.3 is significant	Level of education is an explanatory variable
β_{15} in model 3.4 is not significant but β_7 in model 3.3 is significant	Years served in an organisation is an explanatory variable
If β_{13} in model 3.4 is significant	Age is a moderator
β_{14} in model 3.4 is significant	Level of education is a moderator
β_{15} in model 3.4 is significant	Years served in an organisation is a moderator

Source: Mackinnon, Fairchild and Fritz (2000)

The fifth objective of the study was testing the mediating effect of organisational commitment on the relationship between employee engagement and organisational performance. Testing the mediating influence can be performed using three major approaches; casual steps; difference in coefficients; and product of coefficients (MacKinnon, 2000). In this study, a four step casual approach as advocated by Baron and Kenny (1986) was used. This approach is the most widely used approach of testing mediation as it is suitable for assessing both linear and nonlinear effects. It has previously been used by Muli (2014) and Kiiru (2015).

The first model 3.2 tested the relationship between the predictor variable (employee engagement) and the dependent variable (organisational performance). The second step

involved testing the relationship between the mediator (organisational commitment) and the independent variable (employee engagement). This was achieved using model 3.5;

$$\mathbf{OC} = \beta_0 + \beta_{16} \mathbf{EE} + \varepsilon \dots\dots\dots (3.5)$$

Where

OC = Organisational commitment

EE= Employee engagement

ε = Error term

The third step involved testing the relationship between the mediator and the dependent variable which was achieved using model 3.6

$$\mathbf{OP} = \beta_0 + \beta_{17} \mathbf{OC} + \varepsilon \dots\dots\dots (3.6)$$




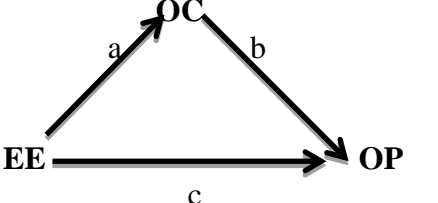
The aim of the first three steps was to establish if whether there was relationship among the variables and if it existed proceed with the forth step.

The forth step was to estimate whether there was mediation and whether it was partial or complete. This was performed in accordance with Baron and Kenny (1986) recommendations. Organisational commitment was included as an explanatory variable to determine whether it has a partial, complete or no influence on the relationship between employee engagement and organisational performance. This was tested using model 3.6

$$\mathbf{OP} = \beta_0 + \beta_{18} \mathbf{EE} + \beta_{19} \mathbf{OC} + \varepsilon \dots\dots\dots (3.7)$$

The four step casual step path approach discussed above is presented in diagram form in Table 3.2

Table 3.2 Mediation Casual Step Path Diagram

	Equation	Path diagram
Step 1	$OP = \beta_0 + \beta_4 EE + \varepsilon$	
Step 2	$OC = \beta_0 + \beta_{16} EE$	
Step 3	$OP = \beta_0 + \beta_{17} OC + \varepsilon$	
Step 4	$OP = \beta_0 + \beta_{18} EE + \beta_{19} EE + OC + \varepsilon$	

Source: Baron and Kenny (1986)

Complete mediation occurs when independent variable no longer affects the dependent variable after controlling the mediating variable while partial mediation occurs when even after controlling the mediator variable; there is a relationship between the independent and dependent variables. The mediation decision criteria is presented in Table 3.3

Table 3.3 Decision Criteria for Mediating Variable

Outcome	Decision
If β_4 in model 3.2 is significant	Complete mediation
If β_{16} is significant in model 3.5	
If β_{18} is not significant but β_{19} in model 3.7 is significant	
If β_4 in model 3.2 is significant	Partial mediation
If β_4 in model 3.2 is significant but more than β_{18} in model 3.6 and β_{18} in model 3.6 is significant	
If β_4 in model 3.2 is not significant	No mediation
If β_{16} in model 3.5 is not significant	
If β_4 in model 3.4 is significant but equal to β_{18} and β_{19} in model 3.7 is not significant	

Source: Baron and Kenny (1986)

3.5 Target Population

The study was based on Kenya's state corporations in the category of training and research. There are nine corporations in this category with a combined workforce of 5728 employees. Whereas most of them are headquartered in Nairobi with stations/institutes in several other locations, some are based in other counties. Each of the corporation has a specific mandate specified in the enabling legislation (appendix 6). Data was collected from a sample of the employees from each of the nine institutions.

3.6 Sampling Design and Procedure

The number of state corporations classified in the category of research and training is relatively small and hence data was collected from all the state corporations as recommended by Saunders (2007). A sample of 378 (additional 4 respondents resulted from rounding off effect) respondents was drawn using Yamane (1967) formula of computing sample from finite population; $n = \frac{N}{1+N(e)^2}$

Where;

n = the size of sample,

N = the population size and

e = is the allowed margin of error (0.05)

$$n = \frac{5728}{1+5728(0.05)^2} = 374$$

Identification of the respondents in each of the organisation was conducted through multi-stage sampling. In the first stage, the researcher purposefully selected the headquarters of each of the selected corporations while excluding the satellite centres. This was based on

the fact that the characteristics of respondents at headquarters and the satellite institutes is relatively homogenous. This method is recommended by Fox Hunn and Mathers (2007) and was used by Maina (2014).

In the second stage, employees were placed into two clusters: research/training and support/administrative. Research/training cluster consisted of all employees whose core job function was either research or training totalling 108 (29%). The rest were classified as support/administrative totalling 270 (71%). Each of the clusters was allocated respondents proportionate to the total population. The final stage involved use of simple random sampling to pick respondents from each cluster.

Table 3.4 Sampling Frame and Sample Size

Name of Institution	Population frequency	Sample size	Percentage (%)	Strata	Size	Respondents
KIPPRA	60	4	1	Support	45	3
				Research	15	1
KALRO	3231	211	56	Support	2320	151
				Research	911	60
Kenya School of Government	60	4	1	Support	35	2
				Training	25	2
National Museums of Kenya	1000	65	17.5	Support	750	49
				Research	250	16
Kenya Medical Research Institute	955	62	17	Support	627	41
				Research	328	21
Kenya Forestry Research Institute	300	20	5	Support	240	16
				Research	60	4
Kenya Industrial Research Development Institute	88	6	1.5	Support	53	4
				Research	35	2
Kenya Marine and Fisheries Research Institute	80	5	1	Support	52	3
				Research	28	2
National Crime Research Centre	14	1	1	Support	8	1
				Research	6	
TOTAL	5728	378	100	Support	270	378
				Research/ Training	108	

Source: Author (2016)

3.7 Data Collection Instrument

Primary data was collected using structured questionnaire (appendix 2). The use of questionnaire enabled the researcher to collect original information from a large population that is geographically dispersed which would not have been possible under other data collection methods (Kothari, 2009). The questionnaire had four parts each covering one of the study variables. Questions were structured in a five point rating scale format with respondents being asked to give the most suitable answer. This made it easy and less time consuming for targeted respondents to respond to the questions while at the same time standardizing responses for ease of analysis.

3.7.1 Validity and Reliability of Research Instruments

The quality of research is to a great degree determined by the instruments used (Allan & Emma, 2015). In order to ensure validity and reliability of research instruments, the researcher conducted a pilot test involving fourteen respondents to test for face and content validity as well as for reliability. The respondent group used for the pilot test was omitted from the list of final respondents.

3.7.2 Validity of Research Instruments

Testing for the validity of research instruments ensures the items measure the desired constructs (Mugenda & Mugenda, 2003). If an instrument is not valid, then the findings of a study are also invalid. To deal with face validity, the researcher adapted instruments that have already been tested in previous studies and his own subjective evaluation of the validity of the instruments.

Content validity was ensured by relying on the advice of the supervisors as well as subject matter experts as proposed by Kothari (2002). Construct validity was dealt with through operationalization of the variables of the study which ensured that they reflect the theoretical underpinning of the study as reflected in the conceptual framework. Construct validity is confirmed if the results generated by the instrument are consistent with the theoretical argument about a construct (Zikmund, 2013). To achieve construct validity, the instrument was assessed by three subject experts whose input was used to make arrive at the final tool

3.7.3 Reliability of Research Instruments

Reliability refers to the consistency of scores over time or across raters. According to Field (2009), a Cronbach alpha equal or greater than 0.7 is indicative of a good measure of reliability. However, other scholars such as Cooper and Schindler (2008) posit that a Cronbach alpha equal or higher than 0.5 is regarded as sufficient.

There is general acceptance among researchers that a Cronbach alpha of 0.5 and above is sufficient for reliability of instruments. This threshold has been used by a number of researchers such as Mulabe (2009), Muathe (2012), Kiiru (2015) among others. However, in order to achieve a higher level of reliability of research instruments, this study adopted a threshold of Cronbach alpha of 0.7. The reliability results are presented in Table 3.7.

Table 3.5 Reliability Test Results

Variable	Number of items	Cronbach Alpha	Comments
Traits engagement	6	0.90	Reliable
Psychological state engagement	5	0.90	Reliable
Behavioural engagement	6	0.92	Reliable
Organisational commitment	18	0.82	Reliable
Organisational performance	26	0.95	Reliable
Overall	67	0.95	Reliable

Source: Survey Data (2016)

The results in Table 3.6 indicates that all the variables had a relatively high reliability with organisational performance with the highest Cronbach Alpha scores of 0.95 followed by psychological state engagement at 0.90, behavioural engagement at 0.92 while organisational commitment had a score of 0.82. The overall score for the entire instrument was 0.95. Therefore, all the variables were found reliable.

3.8 Operationalization of the Study Variables

The study had six variables and each had its own specific indicators: organisational performance (dependent variable): traits engagement (independent variable); psychological state engagement (independent variable): behavioural engagement (independent variable): demographic characteristics (moderating variable) and organizational commitment (mediating variable). Table 3.4 operationalizes each of the variables showing the indicators used to measure each of them.

Table 3.6 Operationalization and Measurement of Variables

Variable	Type	Operationalization Definition	Indicators	Measurement Criteria in Questionnaire
Traits engagement	Independent	Personality characteristics that predispose an employee to engagement	Proactive personality, self-esteem, self-efficacy, conscientious	Part 2: 1-6
Psychological state engagement	Independent	A feeling of energy, involvement and absorption with work based on organisational environment	Job involvement, empowerment, positive affectivity	Part 2: 7-11
Behavioural engagement	Independent	Employee behaviour of putting discretionary efforts	Role expansion, personal resilience, adaptive behaviour	Part 2: 7-11
Demographic characteristics	Moderating	Unique quantifiable features of a particular population	Age	Part 1 question 2
			Length of service	Part 1 question 5
			Level of education	Part 1 question 4
Organisational commitment	Mediating	Desire to continue being a member of an organisation	Affective commitment	Part 3: 1-6
			Continuance commitment	Part 3: 7-11
			Normative commitment	Part 3: 12-17
Organisational performance	Dependent	Degree to which an organisation achieves its mission and vision through meeting its stakeholders' expectations and its financial obligations	Effectiveness	Part 4: 1-7
			Efficiency	Part 4: 8-14
			Relevance	Part 4: 15-19
			Financial viability	Part 4: 20-24

Source: Author and Literature Review (2016)

3.9 Data Collection Procedures

The process of data collection started with being granted approval to collect data and an introduction letter from Kenyatta University Graduate School. This enabled the researcher to approach National Commission for Science, Technology and Innovation (NACOSTI) for a research permit as required under the law (Appendix 3). Consent to collect data was sought from management of targeted institutions (appendix 4) and data was collected after obtaining the necessary consent (sample; appendix 5).

In each of the sampled institutions, a contact person was identified who was trained on how to distribute the questionnaires after being thoroughly briefed on purpose of the research and taken through the data collection instrument. This made it easy to follow up on respondents and ensured a high rate of response in organisations that were geographically widely dispersed. The process of data collection took two months to be completed after which data was cleaned and coded before being analysed.

3.10 Data Analysis and Presentation

Data was analysed using a mix of descriptive and inferential statistics using Statistical Package for Social Scientists (SPSS) software. Descriptive statistics were used to describe data in terms of frequencies, percentages and standard deviations. The study used aggregate mean and standard deviation to describe and compare the variables.

To test the nature and strength of relationships between the study variables, inferential statistics using multiple and hierarchical regression were conducted. Linear relationship between the predictor and the dependent variables was assumed. Mediation effect of organisational

commitment on the relationship between employee engagement and organisational performance was tested using casual steps as advocated by Baron and Kenny (1986). Three regression equations were estimated and tested. A prior criterion was used to arrive at decision.

The study used Pearson product moment correlation to test nature and strength of correlation. Adjusted R^2 was used to explain the amount of dependent variable that could be explained by changes in the independent variable while standardised beta coefficient indicated the direction of the relationship (positive or negative). The study hypotheses were tested at 95% level of confidence. The p-values were used to determine whether the hypothesised relationships were significant or not (p-value < 0.05 indicating significant influence).

To check the assumptions underlying linear regression and the suitability of data for the tests that were conducted, data was subjected to several diagnostic tests.

a. Normality Test

Normality tests are important in regression methods as it ensures that statistical analysis does not result in inflated or under-estimated standard errors (Field, 2009). Data is normally distributed if its skewness and kurtosis is between -1 and + 1 as recommended by Myoung (2008). In the current study, the researcher used this rule of thumb to determine normality. Data that had skewness and kurtosis of -0.1 and +0.1 was accepted.

b. Linearity Test

Linearity implies that an increase in the independent variable causes a proportional increase in the dependent variable. The study used F-test for overall significance of the model and T-test for individual significance as advocated by Brooks (2008). The null

hypothesis tested for the overall significance stated that all the coefficients except that of the intercept is zero. Linear relationship is confirmed if the p -value < 0.01 .

c. Multicollinearity Test

Multicollinearity occurs when the explanatory variables are highly correlated. Its presence may result in high variances which may invalidate hypothesis testing and thus impacting the prediction power of a model (Brooks, 2008). Multicollinearity was tested by computing the Variance Inflation Factors (VIF) with any variable with VIF values greater than 10 considered as indicative of presence of multicollinearity as recommended by Robinson and Schumacker (2009).

d. Heteroscedasticity Test

The presence of heteroscedasticity may result in the estimates being inefficient due to reduced statistical power of the regression coefficient (Hayes & Cai, 2007). This may lead to overestimates or underestimates of the standard error thus yielding too wide or too narrow confidence intervals and consequently p values that are too large or too low (Hayes & Cai, 2007). A p -value > 0.05 would be indicative of heteroscedasticity which would lead to rejection of null hypothesis at 5% level of significance.

e. Sample Adequacy test

Data for variables measured using several indicators was subjected to Keiser-Meyer-Olkin measure of sampling adequacy and the Bartlett's test of sphericity. According to Malhotra and Dash (2011), a KMO of 0.5 and above is recommended. The test indicated that all the variables had a KMO above 0.5 which was an indication of sample adequacy.

f. Confirmatory Factor Analysis

Confirmatory Factor Analysis using Principal Component Analysis, Eigen Values, Communalities and Pattern Matrix for variables measured using several questionnaires was used. Factor Analysis enables removal of constructs that do not meet the objectives of the study (Ledesma & Valero, 2007) and thus increase reliability of research instrument. Eigen values extracts factors that are significant which in this study was a threshold of 0.1 as recommended by Kaiser (1974).

Table 3.7: Summary of Data Analysis

Objective	Hypothesis	Statistical Approach	Threshold for Interpretation
To determine the effect of traits engagement on performance of research and training state corporations in Kenya.	Traits engagement does not affect performance of research and training state corporations in Kenya.	$OP = \beta_0 + \beta_1 TE + \beta_2 PSE + \beta_3 BE + \varepsilon$ Where OP = organisational performance TE = traits engagement PSE = psychological state engagement BE = behavioural engagement ε = error term	Adjusted R ² to assess how much of the variations in the dependent variable is due to the influence of the independent variable.
To assess the effect of psychological state engagement on organisational performance in research and training state corporations in Kenya	Psychological state engagement does not affect performance of research and training state corporations in Kenya		Adjusted R ² ≤ 0.5 (Weak) 0.5 ≤ adjusted R ² ≤ 0.7 (Moderate) R ² ≤ 0.7 (Strong) Significance: p-value ≤ 0.05 Reject the null hypothesis
To assess the effect of behavioural engagement on performance of research and training state corporations in Kenya	Behavioural engagement does not affect performance of research and training state corporations in Kenya		
To determine the moderating effect of demographic characteristics on the relationship between employee engagement and performance of research and training state corporations in Kenya	Demographic characteristics does not moderate the relationship between employee engagement and performance of research and training state corporations in Kenya		
To determine the mediating effect of organisational commitment on the relationship between employee engagement and performance of research and training state corporations in Kenya.	Organisational commitment does not mediate the relationship between employee engagement and performance of research and training state corporations in Kenya	Step1: $OP = \beta_0 + \beta_4 EE + \varepsilon$ Step2: $OC = \beta_0 + \beta_{16} EE + \varepsilon$ Step3: $OP = \beta_0 + \beta_{16} OC + \varepsilon$ Step4: $OP = \beta_0 + \beta_{17} EE + \beta_{18} OC + \varepsilon$ Where OC = organisational commitment EE = employee engagement	If EE is no longer significant when OC is controlled, the findings would support full mediation. If EE is still significant, that is, both EE and OC significantly predict OP; the findings would support partial mediation Significance: p-value ≤ 0.05 Reject null hypothesis

Source: Author (2016)

3.11 Research Ethics

The researcher ensured that the study adhered to research ethics by following ethical standards. First, approval to collect data was granted by Kenyatta University Graduate School after which the researcher sought and was granted research permit by National Commission of Science and Technology (NACOSTI). The next step involved seeking and getting approval from management of targeted organisation to collect data from their staff. Further, the study adhered to research ethics as enshrined by the United Nations Educational Scientific and Cultural Organization (UNESCO) by considering both the positive and negative effects of the study.

The welfare of the respondents was given highest priority to preserve their dignity, privacy and interests at all times. Informed consent was obtained from respondents to ensure that participation was voluntary while the research results were reported with objectivity and integrity. Limits of reliability and applicability were also made clear while information received was treated with confidentiality. Lastly, any materials obtained from books, reports and journals written by other authors were fully acknowledged.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presents the study findings and is divided into three main sections. The first section presents the results of the descriptive statistics while section two presents the results of the tests of the hypotheses using inferential statistics.

4.2 Response Rate and Respondents Demographic Characteristics

This section presents the descriptive statistics of the study and is organised based on the four variables of the study. The analysis is based on Means, Standard Deviation, standard error and the aggregate scores for each of the variables.

4.2.1 Response Rate

The study sought to collect data from nine state corporations in the category of research and training. 378 questionnaires were sent out to nine institutions. At KIPRA, efforts to get a permission to collect data did not yield any response inspite of concerted follow-up. A total of 278 questionnaires were returned but 14 of them were spoilt as only some parts had responses. The spoilt questionnaires were eliminated from further analysis. The response results are presented in Table 4.1

Table 4.1: Response Rate

	Target	Response	Valid response	Percentage
Institutions	9	8	8	89
Questionnaires	378	278	264	70

Source: Survey Data (2017)

Table 4.1 indicates that though nine institutions were targeted; only eight responded. Data from one institution was not collected after the researcher failed to get the necessary approval to collect data from the institution's management even after submitting the request twice and following up in person and through the phone. The valid response rate was 66%. Mugenda (2003); and Saunders *et al.* (2007) posited that a response rate of 50% is adequate, 60% good while 70% is considered very good. With a response rate of 70%, the response was considered adequate for data analysis.

4.2.2 Demographic Characteristics of the Respondents

The study collected demographic data based on gender; age, marital status, level of education, years worked in the organisation and total years in formal employment. The results of the respondent's demographic characteristics are presented in Table 4.2.

Table: 4.2 Demographic Characteristics

Gender	Frequency	Percentage (%)
Male	133	50.4
Female	131	49.6
Total	264	100
Age	Frequency	Percentage (%)
Below 30	45	17
30-40	99	37.5
41-50	68	25.8
51-60	51	19.3
Over 60	1	.4
Total	264	100
Marital Status	Frequency	Percentage (%)
Married	191	72.3
Single	59	22.3
Divorced	4	1.5
Separated	5	1.9
Windowed	5	1.9
Total	264	100
Level of Education	Frequency	Percentage (%)
Doctorate	12	4.5
Masters	73	27.7
First degree	76	28.8
Diploma/Certificate	68	25.8
Secondary education	28	10.6
Primary education and below	7	2.7
Total	264	100
Years in Employment	Frequency	Percentage (%)
5 years and below	51	19.3
6-10	67	25.4
11-15	48	18.2
16-20	44	16.7
Over 20	54	20.5
Total	264	100
Years served in organisation	Frequency	Percentage (%)
Below 5 years	63	23.9
5-10 years	63	23.9
11-15 years	52	19.7
16-20 years	38	14.4
Over 20 years	48	18.2
Total	264	100

Source: Survey Data (2017)

Table 4.2 indicates that male respondents are slightly more than female respondents at 50.4% and 49.6% respectively. This is a clear indication that gender parity is almost achieved in the public service. The age profiles were classified into five categories; below 30years, 30-40 years, and 41-50 years, 51-60 years and above 60 years. Most of the respondents were aged between 30-50 years which constituted 63.3%.

The respondent's marital status was grouped into five categories; married, single, divorced, separated and windowed. Table 4.3 indicates that majority of the respondents were married (72.3%) while 22.3% were single, 1.5% divorced, 1.9% separated and 1.9% windowed. The high percentage of married people may be an indication of job security in the public service which has enabled employees to enter in to long term relationships.

The study sought to establish the respondent's highest level of education attained. Education was classified in to six categories; doctorate, master's degree, first degree, certificate/diploma, secondary education; and primary education and below. The results in Table 4.3 revealed that 61% of the respondents had attained a minimum level of a first degree. This is an indication of the investment that has been made in the higher education sector enabling many Kenyans to acquire university level education as well as the values attached to qualifications of employees based on the belief that it positively impacts performance.

To investigate whether tenure influences performance, the study sought to find out the number of years the respondents had been in employment as well as the number of years they had been in their organisations. The results indicated that 55.3% had worked for more than 10 years while 52.2% o had worked in their respective organisations for more

than 10 years. This reflects the low levels of turnover in the public service in as a result of the value attached to public service jobs in an economy with a weak private sector.

4.2.3 Traits Engagement

Trait engagement was assessed using six questions with respondents being required to indicate how often they experienced certain feelings at work on a Likert scale of 1-5 with the answer ranging from never (1) to always (5). The results are presented in Table 4.3.

Table 4.3: Descriptive Statistics for Traits Engagement

Description	Mean	Standard Deviation	Standard Error
At work, I can persevere even when things do not go well	3.51	1.09	0.67
When I get up in the morning, I look forward to going to work	3.46	1.15	0.07
I can continue working for very long periods at a time	3.31	1.03	0.06
At my job, I feel strong and vigorous	3.26	1.01	0.06
At my job, I am very resilient mentally	3.20	1.10	0.06
At work, I feel bursting with energy	2.90	1.00	0.06
Aggregate mean score	3.27	1.06	0.65

Source: Survey Data (2017)

The result indicates that employees of research and training state corporations have a proactive personality which is reflected by the first two statements (mean score 3.51 and 3.46). The aggregate mean score of traits engagement is 3.27 with a standard deviation of 1.06 and a standard error of 0.65. This indicates that employees of research and training state corporations in Kenya often have a positive view of life and work, are dependable and have proactive personalities which are all indicators of traits engagement.

Based on the results, it is apparent that majority of the employees recruited in research and training state corporations have necessary traits to engage. This is consistent with Colby, Sippola and Phelps (2001) argument that employees engaged in work that benefits the general society are more likely to be engaged. This may also imply that the complexities of tasks performed in such institutions create conditions conducive for engagement which would confirm Hackman and Oldham's job characteristics model (Robbins, 1991).

4.2.4 Psychological State Engagement

The study sought to assess psychological state engagement with respondents being required to indicate how often they experienced certain feelings at work. The results are presented in Table 4.4

Table 4.4: Descriptive Statistics for Psychological State Engagement

Description	Mean	Standard Deviation	Std. Error
I am proud of the work that I do	3.79	1.13	0.67
I am enthusiastic about my job	3.67	1.08	0.67
My job inspires me	3.62	1.13	0.70
I find the work that I do full of meaning and purpose	3.61	1.09	0.67
I find my job challenging	2.90	1.07	0.66
Aggregate mean score	3.52	1.10	0.67

Source: Survey Data (2017)

The study found that employees of research and training state corporations are very often proud of their jobs with a mean score of 3.79 while there are high levels of enthusiasm with the job (3.67). The aggregate mean score for psychological state engagement is 3.52 with a standard deviation of 1.10 and a standard error of 0.67. This implies that

employees of research and training state corporations in Kenya very often experience psychological state engagement. The scores for this variable which are about the job itself are quite high compared to the other variables. This could be an indication engagement with the job itself as opposed to engagement with the organisation.

These results are in agreement with earlier findings by Mulabe (2009) who found that most state corporations provide a supportive work environment and job security. In return, employees reciprocate by being engaged with their work and organisations. These findings offers support to the social exchange theory main argument of reciprocity.

4.2.5 Behavioural Engagement

Behavioural engagement was assessed using six questions with respondents required to indicate how often they experienced certain feelings and results presented in Table 4.5.

Table 4.5: Descriptive Statistics for Behavioural Engagement

Description	Mean	Std. Deviation	Std. Error
Time flies when I am working	3.46	1.09	0.07
I feel happy when I am working intensely	3.41	1.12	0.07
I am immersed in my work	3.20	1.05	0.06
It is difficult to detach myself from my job	3.02	1.14	0.07
When I am working, I forget everything else around me	2.75	1.17	0.07
I get carried away when I am working	2.67	1.11	0.07
Aggregate mean score	3.09	1.00	0.07

Source: Survey Data (2017)

The result indicates that respondents are involved in role expansion with 3.20 often being immersed in their work while 3.02 are often unable to detach themselves from their work.

The aggregate mean score for behavioural engagement is 3.09 with a corresponding standard deviation of 1.00 and a standard error of 0.07. This implies that most respondents experience behavioural engagement.

State Corporations in research and training in Kenya offer jobs that require individual creativity. Most employees in research and training positions are highly trained and this may explain high levels of involvement with the job. Research and training jobs give room to employees in making decisions regarding how to perform their tasks. This may be the reason why the mean average of behavioural engagement in research and training state corporations is higher than the other two engagements. The findings support Castellano (2015) employee engagement model in which traits and psychological state engagement are depicted as predictors of behavioural engagement.

4.2.6 Summary of Employee Engagement

The results of the three types of engagement which were used as the independent variables of the study indicates that psychological state engagement had the highest aggregate mean score (3.52) followed by traits engagement (3.27) with behavioural engagement coming in last with an aggregate mean of 3.09. These results may imply that the work itself is engaging, the conditions at work are conducive and employees find the work meaningful. The lower scores in behavioural engagement may be an indication that though the work is exciting and challenging, there are other factors at the workplace that generally lower the employees' levels of energy. Such factors could include poor remuneration and poor relationship with supervisors and management among others.

4.2.7 Organisational Commitment

Respondents were assessed on their levels of organisational commitment using a rating scale of 1-5. The lowest score was; not at all (1) while the highest score was; to a very large extent (5). Organisational commitment was assessed using Meyer and Allen (1990) three factor organisational commitment model. The analysis indicates the overall aggregate levels as well as the scores for each of the three types of organisational commitment; affective commitment, continuous commitment and normative commitment. The results are presented in Table 4.6.

Table 4.6: Descriptive Statistics for Organisational Commitment

Description	Mean	Std. Deviation	Std. Error
I am very happy being a member of this organisation	3.59	1.04	0.06
I really feel as if this organisation's problems were my own	2.87	1.06	0.07
I do not feel a strong sense of belonging to this organisation	2.32	1.12	0.07
I do not feel emotionally attached to this organisation	2.39	1.14	0.07
I do not feel like part of 'the family' in my organisation	2.31	1.15	0.07
My organisation has a great deal of meaning to me	3.41	1.09	0.07
Affective Commitment	2.82	1.1	0.07
It would be very hard to leave this organisation right now even if I wanted to	2.98	1.21	0.07
My life would be disrupted if I were to leave the organisation now	2.87	1.22	0.08
I have few options to consider leaving the organisation	2.81	1.08	0.07
It would be too costly to leave my organisation now	2.86	1.20	0.07
If I had not already invested too much in this organisation, I would consider working elsewhere	2.69	1.26	0.08
Continuance Commitment	2.84	1.19	0.07
I feel I owe this organisation quite a bit because of what it has done for me	3.05	1.12	0.07
This organisation deserves my loyalty because of how it has treated me	3.15	1.14	0.07
I feel I would be letting my co-workers down if I were to leave the organisation for another	2.62	1.22	0.08
I am loyal to this organisation because it shares my values	3.14	1.14	0.07
This organisation has a mission that I believe in and I am committed to	3.45	1.15	0.07
I feel it is morally correct to dedicate myself to this organisation	3.59	1.06	0.07
Normative Commitment	3.17	1.34	0.07
Aggregate Mean Score	2.95	1.14	0.07

Source: Survey Data (2017)

The data presented in Table 4.6 indicates that normative commitment (2.84) had the highest scores (3.17) while scores for both affective (2.82) and continuance commitment were slightly lower and almost equal. This could possibly be explained by the fact that most employees had worked for their institutions for a long time (over ten years) and felt a sense of obligation to the organisation possibly because they had grown with them. It is also a fact that most researchers join their organisations with only first degrees but

acquire other qualifications mostly through scholarship made available to them by virtue of their employment. They therefore feel obliged to remain in the organisation.

The aggregate mean score for organisational commitment was a score of 2.95 with a standard error of 0.07 and a standard deviation of 1.14. This implies that the level of organisational commitment among employees of state corporations is moderate. This may be explained by job security and well defined jobs in the public service. It may also be a reflection of the networks acquired through research and training which could be lost if one were to leave the organisation. It is important to note that the levels of commitment are moderate an indicator that the levels of satisfaction with the job and organisation are only average.

4.2.8 Organisational Performance

Organisational performance was assessed on a scale of 1-5 with 5 indicating to a very large extent. The variable was measure using twenty four questions which measured four indicators of performance: efficiency, effectiveness, relevance and financial viability. The scores of each indicator and the aggregate mean score for the variable as a whole are presented in Table 4.7.

Table 4.7: Descriptive Statistics for Organisational Performance

Description	Mean	Std. Deviation	Std. Error
The organisation mission statement aptly capture what we do	3.56	1.11	0.07
The organisation often achieves its annual targets	3.22	0.98	0.06
The organisation supports innovation	3.35	1.07	0.07
The organisation continuously assess customer satisfaction	3.12	1.06	0.07
The organisation services and or products are highly rated	3.34	1.03	0.06
The organisation closely monitors its effectiveness	3.17	1.06	0.07
The organisation have well established qualitative and quantitative indicators to monitor our effectiveness	3.17	1.03	0.06
Effectiveness	3.28	1.05	0.07
The staff numbers are adequate for the organisation's mission	3.00	1.14	0.07
The organisation responds promptly to changes in technology and to competitors actions	3.00	1.12	0.07
The organisation responds promptly to customer complaints	3.05	1.05	0.06
Services are delivered within set timelines	3.03	1.04	0.06
Employees attendance is closely monitored	3.49	1.11	0.07
Employees performance is adequately in monitored	3.16	1.08	0.07
There are adequate support systems in place to support implementation of our programmes and projects	3.02	1.04	0.06
Efficiency	3.11	1.08	0.07
The organisation regularly engages its stakeholders	3.21	1.06	0.07
Major projects are always implemented after consultations with stakeholders	3.32	1.08	0.07
The organisation's products and or services are regularly reviewed to reflect the changing customer preferences	3.10	1.03	0.06
There is regular monitoring of customer attitude towards products and services	3.00	1.04	0.06
Most of the stakeholders think we are on the right track	3.24	1.06	0.07
Relevance	3.17	1.05	0.07
The organisation's resources are adequate to meet all its objectives	2.77	1.10	0.07
The organisation is able to meet its financial obligations when they fall due	2.83	1.08	0.07
The annual expenses are less than revenues	2.65	1.17	0.07
The organisation's assets are more than its liabilities	2.95	1.15	0.07
The organisation is able to fund all its activities from its revenues	2.41	1.24	0.08
Financial Viability	2.72	1.15	0.07
Aggregate score	3.09	1.08	0.07

Source: Survey Data (2017)

Table 4.7 indicates that state corporations are perceived to be moderately effective with an aggregate mean score of 3.3. The performance indicator with the highest score was efficiency with an aggregate mean of 3.54 followed by effectiveness with an aggregate mean score of 3.28. The lowest score was on the indicator of financial viability with an aggregate mean score of 2.72. This may imply that effectiveness and efficiency contribute most in performance of SCs while financial viability contribution is least. The overall aggregate mean score for organisational performance was 3.09 with a corresponding standard deviation of 1.08 and a standard error of 0.07. This implies that respondents view performance of state corporations as moderate.

The results are similar to those of Kiiru (2015) in terms of the indicators with the highest and lowest contribution to performance of state corporations. These results may be attributed to the fact that state corporations exist to offer services rather than to make profits and hence more attention is paid to effectiveness and efficiency rather than to return on investment.

4.3 Inferential Analysis

This section presents results of tests of the null hypotheses to determine the influence of employee engagement on performance of research and training state corporations in Kenya while taking in to account the moderating role of demographic characteristics and the mediating influence of organisational commitment. In addition, the section addresses the results of the various diagnostic tests conducted to ensure accuracy of the regression models.

4.3.1 Diagnostic Tests

To accurately estimate the regression models, the basic assumptions of linear regression have to be met (Gupta, 2005). To fulfil this requirement, the study conducted the following tests; Normality Test, Collinearity Test, Multicollinearity Test, Test of Sample Adequacy and Confirmatory Factor Analysis.

a. Normality Test

Normality test was conducted to determine the distribution of data using skewness and kurtosis. Myoung (2008) recommended that data is normally distributed if its kurtosis lies between -0.1 and +0.1. Results of Normality tests are presented in Table 4.8.

Table 4.8: Results of Normality Tests

Description	Skewness	Kurtosis
Traits_Engagement	.226	-.253
Psychological_Engagement	.008	-1.201
Behavioural engagement	.255	-.552
Employee engagement	.224	-.815
Organisational commitment	.213	.110
Age	-.96	.17
Level of education	-.49	.29
Tenure	-1.24	.25
Organisational performance	.102	-.032

Source: Survey Data (2017)

Results presented in table 4.8 indicates that the variables had Kurtosis and skewness as follows; traits had a Kurtosis of -.253 and skewness of .226; psychological state engagement had a Kurtosis of -1.201 and skewness of .008; behavioural engagement had

a Kurtosis of -.552 and skewness of .255; employee engagement had a Kurtosis of -.815 and skewness of .224; organisational commitment had a Kurtosis of .110 and skewness of .213; age had a Kurtosis of 0.17 and skewness of -0.96; level of education attained had a Kurtosis of 0.29 and skewness of -0.49, tenure had a Kurtosis of 0.25 and skewness of -1.24 while organisational performance had a Kurtosis of -.032 and skewness of .102.

All the study variables had a Kurtosis within the range of -0.1 and 0.1 which met the threshold of data being normally distributed as advocated by Myoung (2008). Therefore, the data was found to be suitable for regression analysis.

b. Linearity Test

The study tested for the overall significance of the relationship between the independent variables and the dependent variable and the individual significance of the relationship between each of the independent variable and the dependent variable and the results are presented in Table 4.9.

Table 4.9 Linearity Test Result

Dependent variable: Organisational performance	Test Results	p-value	Conclusion
Overall test significance	61.9	0.000	Linear relationship
Traits engagement	5.3	0.000	Linear relationship
Psychological state engagement	3.7	0.000	Linear relationship
Behavioural engagement	4.3	0.000	Linear relationship

Source: Survey Data (2017)

The results presented in Table 4.9 indicate that the F-statistic for the overall model is 61.9 with a corresponding p-value of 0.000; traits engagement 5.3, p-value 0.000; psychological state engagement 3.7, p-value 0.000; and behavioural engagement 4.3, p-value 0.000. This implies that jointly and individually, the independent variables have a linear relationship with the dependent variable. The results confirmed the theoretical underpinning of the study that the predictor variables influences organisational performance (Gupta, 2005)

C. Multicollinearity

To test whether multicollinearity would pose a serious challenge to the study, tests based on VIF and their reciprocal tolerances were conducted. The results of the test are presented in Table 4.10

Table 4.10 Multicollinearity Test Results

Variable	Tolerance	VIF	Remarks
Traits Engagement	0.58	1.72	No multicollinearity
Psychological State Engagement	0.65	1.54	No multicollinearity
Behavioural Engagement	0.71	1.4	No multicollinearity
Aggregate mean score	0.64	1.57	No multicollinearity

Dependent variable: organisational performance

Source: Survey Data (2017)

The results presented in Table 4.10 indicates that tolerance and VIF for traits engagement = 0.57 and 1.75; psychological state engagement = 0.64 and 1.57; behavioural state engagement = 0.71 and 1.4 respectively. The aggregate mean score for tolerance = 0.64

and VIF = 1.57. All the predictor variables had a VIF of less than 10. The explanatory variables were not highly correlated and could not pose a serious problem. The data was thus suitable for hypotheses testing using regression analysis.

d. Test of Sample Adequacy

To determine whether the sample size was adequate for confirmatory factor analysis, the data collected was tested using Kaise-Meyer-Olkin (KMO) which varies from 0-1. Values that are close to 1 are better with a threshold for adequacy being 0.5 (Williams, Brown & Onsman, 2012). The results are presented in Table 4.11

Table 4.11 KMO and Bartlette's Tests Result

	Traits Engagement	Psychological state engagement	Behavioral engagement	Organisational commitment	Organisational performance
KMO	.77	.820	.754	.814	.926
Approx. Chi square	162.87	550.80	293.89	1261.54	3353.28
DF	6	6	10	66	210
Sig.	.000	.000	.000	.000	.000

Source: Survey Data (2017)

The result indicates that all the variables had KMO above 0.7 which is regarded as a good score (Field (2005)). All the variables had a KMO that was close to 1.0 which indicates that factor analysis was suitable for the data. The Bartlette's test of Sphericity was significant (0.000) which implies that the variables were suitable for structure detection. The sample size was hence found adequate and suitable for factor analysis.

e. Confirmatory Factor Analysis

Confirmatory factor analysis was conducted using Eigen values, communalities and pattern matrix to establish sets of statements that were most suited to measure study variables. Further, the study used Eigen values to extract significant factors. All factors with Eigen value greater than 1.0 were considered as significant as recommended by Kaiser (1974). Traits engagement was evaluated using six statements from which factor analysis produced three which cumulatively accounts for 65.8% of the total variance in the construct (Appendix 7).

Psychological state engagement was assessed using five statements. Using factor analysis, only one element was critical in explaining the total variance in the variable and accounted for 59.7% (Appendix 6). Behavioural engagement was assessed using six items. The results revealed that two critical items that cumulatively accounted for 60.3% of total variance in the construct (Appendix 6). The mediating factor variable of organisational commitment was assessed using seventeen items. The results of factor analysis indicated that three items were critical and accounted for 65.8% of variance in the construct (Appendix 6). The dependent variable was assessed using twenty four elements. The factor analysis results indicated that four items were critical and accounted for 64.7% of changes in the construct (Appendix 6).

The study also used pattern matrix to determine which of the items to drop in the final analysis. The items dropped were those which did not load in the component matrix as this indicates that it doesn't fit very well. Out of the six items that assessed traits engagement, the statement, 'at work, I feel bursting with energy' did not load in the

pattern matrix and was therefore dropped. The variable was therefore analysed using five items. Psychological state engagement had five items with one (I find my job challenging) not loading in the component matrix and was therefore dropped from further analysis.

Behavioural engagement which was assessed using six items had all the items loading in the component matrix and therefore none was dropped. The mediator variable organisational commitment with 17 items to assess it had twelve items loading while five did not load and were therefore dropped from further analysis. The dependent variable organisational performance which had 24 items assessing it ended being assessed with twenty one items as three did not load in the pattern matrix and were therefore dropped.

4.3.2 Test of Hypotheses

The study was based on the hypothesised assumption that employee engagement influences organisational performance and that the relationship is moderated by demographic characteristics and mediated by organisational commitment. To test the hypothesised relationship between the variables, multiple and hierarchical regression analysis were conducted and the results interpreted using adjusted R^2 and corresponding P-values at $p < 0.05$ significance level.

4.3.3 Test of Direct Relationship

The direct relationship between traits, psychological state and behavioural engagement and organisational performance was tested using multiple regressions as specified in the regression model 3.1. The regression test results are presented in Table 4.12.

Table 4.12 Multiple Regression Results on Influence of Employee Engagement on Organisational Performance

Goodness of Fit		Test Statistics		P-value
Adjusted R squared		.426		
R squared		.433		
F-statistics		61.86		0.000**
Regression Results				
		Coefficient	T-statistics	P-value
Constant			3.62	
Traits Engagement		.333	5.26	0.000**
Psychological State Engagement		.223	3.72	0.000**
Behavioural Engagement		.243	4.26	0.000**
Key ** significant at 0.05				

Source: Survey Data (2017)

Table 4.12 indicates that the adjusted R^2 is 0.426. This implies that the three independent variables jointly explain 43% of the variance in the dependent variable while the rest are explained by the error term. The F statistic is 61.86 with a corresponding p-value of 0.000 which implies that the influence of the three independent variables on the dependent variable is significant; ($P < 0.05$), hence the null hypothesis was rejected.

Further, the coefficient for traits engagement is 0.33 with a corresponding p-value < 0.05 ; coefficient for psychological state engagement is 0.23 with a corresponding p-value < 0.05 and the coefficient for behavioural engagement is 0.24 with a corresponding p-value < 0.05 . The result implies that each of the three independent variables is positively related to organisational performance. A unit increase in any of them would result in proportionate increase in performance of state corporations. Based on the coefficient analysis of Table 4.14, the regression model is restated as follows;

$$OP = \beta_0 + 0.33TE + 0.22PSE + 0.24BE + \varepsilon \dots\dots\dots 3.1$$

Where

B_0 = Y intercept

0.33 = an estimate of expected increase in traits engagement that would result in a corresponding increase in organisational performance

0.22 = an estimate of expected increase in psychological state engagement that would result in a corresponding increase in organisational performance

0.24 = an estimate of expected increase in behavioural engagement that would result in a corresponding increase in organisational performance

ε = Error term (changes that are explained by other variables not in the equation)

4.3.4 Traits Engagement and Organisational Performance

The study sought to investigate the influence of traits engagement on performance of research and training state corporations in Kenya. The null hypothesis developed to test this relationship was H_{01} , which was stated as follows;

H_{01} : Traits engagement does not affect performance of research and training state corporations in Kenya

Results presented in Table 4.12 indicate that the coefficient for traits engagement is 0.333, t-statistics is 5.26 with a corresponding p-value of 0.00 (p-value < 0.05) which implies that the relationship with the dependent variable is significant. The relationship is positive implying that trait engagement has a positive influence on organisational performance. Hence, holding all things constant, it could be concluded that a unit change

in traits engagement leads to 0.333 unit change in organisational performance. Therefore, the null hypothesis is rejected implying that traits engagement has a significant influence on performance of research and training state corporations in Kenya.

The results are consistent with previous findings. For instant, Ali *et al.* (2011) found that personality of school principals have significant influence on school performance. Further, Echchakoui (2013) found that traits (openness, adaptive behaviour, agreeableness, conscientiousness) influence performance. Considering that this research was conducted in research and training state corporations with the average level of education being a first degree, it may be argued that intelligent employees are better able to manage their emotions and manage relationships (Koydemir, Simsek, Schutz & Tipandjan, 2013) and hence positively impact performance of their respective organisations.

Positive emotions have been demonstrated to explain job performance (Frederickson, 2001) and hence it may be concluded that traits engagement has had a considerable influence on performance of research and training state corporations in Kenya. It is widely believed that workers who have positive emotions are better adapted to dealing with job demands and develop strong relationships and generally have higher levels of job performance (Bakker & Bal, 2010).

4.3.5 Psychological State Engagement and Organisational Performance

The second objective was to investigate the influence of psychological state engagement on performance of research and training state corporations in Kenya. The null hypothesis developed to test this relationship was stated as follows;

H₀₂: Psychological state engagement does not affect performance of research and training state corporations in Kenya.

The results of the hypothesis indicate that the coefficient for psychological state engagement is 0.223, t-statistics of 3.72 and a corresponding p-value < 0.05 which indicates that the relationship is significant. Therefore, the null hypothesis is rejected implying that psychological state engagement significantly influence performance of research and training state corporations in Kenya. The beta scores are positive an indication that the influence is positive. It may be concluded that holding all things constant, a unit change in psychological state engagement would lead to 0.223 units of change in performance of research and training state corporations in Kenya.

These findings are in agreement with earlier empirical studies. For instance, Brown, Gray, McHardy and Taylor (2014) found support for positive relationship between trust and performance using the measures of financial performance, labour productivity and product and/ or service quality. Similarly, Uskalu, Ogunleye and Effiong (2015) found a strong relationship between trust and teachers performance in Nigeria. The findings also support the social exchange theory. Employees will reciprocate fair treatment accorded to them by the employer by increasing their performance (Eisenberger et al., 2001). Positive treatment of employees by the employer through better job design and fair

practices leads to positive attitude about the organisation and better performance (Powell, Dawson, Topakas, Durose & Fewtrell, 2014)

4.3.6 Behavioural Engagement and Organisational Performance

The third objective of the study was to investigate the influence of behavioural engagement on performance of research and training state corporations in Kenya. This was tested by null hypothesis;

H₀₃: Behavioural engagement does not affect performance of research and training state corporations in Kenya.

The hypothesis test result obtained indicates that the coefficient for behavioural engagement is 0.24; t-statistics is 4.26 with a corresponding p-value of 0.00 (p-value < 0.05) implying that the relationship is significant. Therefore, the null hypothesis is rejected in favour of the alternate hypothesis which holds that behavioural engagement has significant influence on performance of research and training state corporations in Kenya. The coefficient is positive an indication that changes in behavioural engagement results in an increase in performance of state corporations in Kenya. The study concluded that a unit change in behavioural engagement leads to 0.24 units of change in organisational performance.

The findings are in agreement with those of Morgason, Klinger and Hemingway (2005) who posited that job autonomy, cognitive abilities and job related skills are related to role breadth which in turn is positively related to performance. Bukhari (2009) found that counter-productive organisational behaviour is inversely related to organisational

citizenship behaviour (OCB). This implies that employees exhibiting OCB exhibit behaviours that benefit the organisation and hence boost performance. Kariuki (2015) also found that employee empowerment has a positive effect on organisational performance.

4.3.7 Moderating Effect of Demographic Characteristics

The fourth objective of the study was to investigate the moderating influence of demographic characteristics on performance of research and training state corporations in Kenya. This objective was tested by three sub-hypotheses with each of the three indicators of demographic characteristics being tested for moderation through multiple and step-wise regressions.

The first step involved testing the influence of employee engagement on performance of research and training state corporations and the results presented in Table 4.13.

Table 4.13 Regression of Composite of Employee Engagement on Organisational Performance

Goodness of Fit	Test Statistics		P-value
Adjusted R squared	0.41		
R squared	0.410		
F-statistics	170.549		0.000*
	Test statistics		
	Coefficient	T-statistic	P-value
Constant		3.66	0.000*
Employee engagement	0.64	13.06	0.000*
Key * Significant P-value < 0.05			

Source: Survey Data (2017)

The result presented in Table 4.13 indicates that adjusted R^2 is 0.41. The F- statistics is 170.5 with a corresponding p-value of 0.000 (p-value < 0.05). This implies that employee engagement has a significant influence on performance of research and training state corporations in Kenya. 41% of changes in performance of state corporations are attributed to the levels of employee engagement. The Beta coefficient for employee engagement is 0.64 with a corresponding p-value 0.000 while the t-statistic is 13.06 with a corresponding p-value of 0.000. This implies that a unit change in employee engagement results in 0.64 unit change in performance of research and training state corporations in Kenya. Regression model 3.2 was therefore restated as follows;

$$OP = \beta_0 + 0.64EE + \varepsilon \dots\dots\dots 3.2$$

In the second step, a multiple regression involving employee engagement and each of the three variables constituting the demographic characteristics was introduced in the model as predictor variables and the results are presented in Table 4.14

Table 4.14 Regression of Employee Engagement and Demographic Characteristics on Organisational Performance

Goodness of Fit	Test Statistics	P-value	
Adjusted R squared	0.43		
R squared	0.440		
F-statistics	47.6	0.000*	
Regression statistics			
	Coefficient	T-statistic	P-value
Constant		3.76	0.000*
Employee engagement	0.64	13.0	0.000*
Age	0.23	2.48	0.14
Years served in organisation	0.22	2.24	0.26
Level of education	0.21	3.42	0.001*

Source: Survey Data (2017)

The results presented in Table 4.14 indicate that adjusted R-squared is 0.43 implying that the regression model explains 43% of changes in organisational performance while the rest are attributed to variables not included in the regression. The F-statistics is 47.6 with a corresponding p-value of 0.000 (p-value < 0.05) indicating that the influence is significant. Employee engagement has a coefficient of 0.64; t-statistic of 13.0 and a p-value of 0.000 which implies that a unit change in employee engagement would result in a 0.64 unit change in organisational performance.

The beta coefficient for age is 0.23; t-statistic of 13.0 and a corresponding p-value of 0.14 (p-value > 0.05). This implies that age does not have significant influence on performance of research and training state corporations in Kenya. The beta coefficient for years served in an organisation is 0.22; t-statistic is 2.24 and a corresponding p-value of 0.26. This implies that the relationship is not statistically significant (p-value > 0.05). The level of education has a beta value of 0.22; t-value of 2.24 and a corresponding p-value of 0.001. The relationship is significant (p-value < 0.05) implying that a unit change in level of education would result in 0.22 increase in level of performance. The regression model is hence restated as follows;

$$\mathbf{OP = \beta_0 + 0.64EE + 0.23Age + 0.21Edu. + 0.22Years\ served + \dots \dots \dots 3.3}$$

The third step involved the interaction term between employee engagement and each of the variables constituting the demographic characteristics using regression model 3.4 and the results are presented in Table 4.15.

Table 4.15 Regression Results of Employee Engagement and Interaction of Demographic Characteristics on Organisational Performance

Goodness of Fit	Test Statistics	P-value	
Adjusted R squared	0.51		
R squared	0.52		
F-statistics	36.79	0.000*	
Regression statistics			
	Coefficient	T-statistic	P-value
Constant		4.04	0.000*
Employee engagement	0.63	13.80	0.000*
Age	0.19	2.00	0.49
Years served in the organisation	0.20	2.05	0.42
Education	0.21	3.60	0.000*
EE * age	0.22	2.66	0.008*
EE * Years served in organisation	0.21	4.00	0.000*
EE * Level of education	0.21	4.03	0.000*
Key * Significant P-value < 0.05			

Source: Survey Data (2017)

Result in Table 4.15 indicates that the adjusted R^2 has a score of 0.51; f-statistic of 36.79 with a corresponding p-value of 0.000 implying that the overall interaction of demographic characteristics has a significant influence on performance of research and training state corporations in Kenya (p-value < 0.05). The model explains 51% of changes in the dependent variable while the rest are attributed to variables not in the model. The influence of each variable is explained in sub hypotheses H_{04a} , H_{04b} and H_{04c} .

a. H_{04a} : Age does not moderate the relationship between employee engagement and performance of research and training state corporations in Kenya

The result indicates that the interaction between employee engagement and age is significant (p-value = 0.008; p-value < 0.05). Hence, age moderate the relationship

between employee engagement and organisational performance in accordance with the decision criteria in table 3.1. The findings agree with previous studies which had established that older workers are more satisfied by their work possibly because they have more attractive jobs which lead to positive organisational outcomes (Mitchell, Levine & Pozzebon, 1990).

A study conducted by Kisian, Catsouphes, Bhate, Lee, Carapinha and Minnich (2011) found that employees below the age of 40-49 have lower levels of work engagement compared to those in that age set and those above it. Similar results were recorded in a study conducted by James, Mckechnie and Swanberg (2010) who found significant differences in levels of engagement among different age sets. Those below age 25 were found to be less engaged compared to those between the ages of 40-54 years. Employees approaching retirement were found to be the most engaged. This may be explained by the fact that different demographic groups have different expectations and therefore have different engagement drivers (Insync Surveys, 2009).

In some jobs, productivity declines at a relatively early age. For instance, Castellucci et al., (2009) found that productivity of Formula 1 drivers is at its peak between 30-32 years and decreases rapidly thereafter.

b. H_{04b}: Years served in an organisation does not moderate the relationship between employee engagement and performance of research and training state corporations in Kenya

The interaction term of employee engagement and years served in organisation is has a beta coefficient of 0.21 and a corresponding P-value = 0.000 which implies that the relationship is statistically significant and positive (p-value < 0.05). This implies that the

number of years served in an organisation has a moderating influence on the relationship between the predictor and dependent variable. A unit increase in years served in an organisation would result in 0.21 unit increase in performance attributed to influence of employee engagement.

The findings support earlier works by Ng and Feldman (2010) who found that tenure is positively related to organisational performance. Similar results were reported by Steffens, Shemla, Wegge and Diestel (2014); and Milana and Maldaon (2015). Indeed the human capital theory suggests that over the course of their careers, employees gain human capital by gaining job skills, abilities and experiences (Myers, Griffith, Daugherty & Lusch, 2004). Employees' with extensive tenures show remarkable performance as they have internalised organisational culture and norms and match the organisational job demands to a higher degree (Kristof-Brown, Zimmerman & Johnson, 2005). Accumulation of tenure enables employees to acquire social acceptance, role clarity and self-efficacy (Bauer, Bodner, Erdogan, Truxillo & Tucker, 2007).

These findings therefore support the long held practice in most organisations of rewarding tenure. However, some studies have reported that there is no significant difference in levels of engagement based on length of service (Wilson, 2009). Steffens, et al., (2014) found that the impact of tenure is mostly found in the first three to six years and that after fourteen years, the influence completely disappears. Policy makers should hence pay attention to age as they formulate employees' policies in their organisations.

c. H_{04c}: Level of education does not moderate the relationship between employee engagement and performance of research and training state corporations in Kenya

The interaction term of employee engagement and level of education has a beta coefficient of 0.21 and a corresponding P-value of 0.000. The relationship is positive (beta values are positive) and significant ($p\text{-value} < 0.05$) which implies that the level of education has a moderating influence on the relationship between the employee engagement and performance of state corporations in Kenya. A unit increase in level of education would result in 0.21 unit increase in performance attributed to influence of employee engagement.

Previous studies on influence of level of education and organisational performance have been inconclusive and inconsistent. For instance, some studies have found that education has a negative influence on organisational commitment and by extension on organisational performance (Eskildsen, Kristensen & Westlund, 2004; Iqbal, 2010; Mathieu & Zajac, 1990 as cited by Amanagera, 2013). Other studies however have found that level of education has a positive influence on organisational performance through its influence on employee engagement (Smith & Markwick, 2009). It is evident that levels of education influence other variables whether positively or negatively and hence policy makers should take this in to account in developing human resource policies.

The study had sought to establish whether demographic characteristics moderate the relationship between employee engagement and performance of research and training state corporations. All the three sub-hypothesis developed to test the null hypothesis were rejected. This implies that demographic characteristics have a moderating influence on the relationship between the independent and dependent variables of the study.

4.3.8 The Mediating Effect of Organisational Commitment

The fifth objective of the study was to investigate the mediating influence of organisational commitment on the relationship between employee engagement and performance of research and training state corporations in Kenya. This was tested through null hypothesis H_{05} :

H_{05} : Organisational commitment does not mediate the relationship between employee engagement and performance of research and training state corporations in Kenya.

The mediation influence was tested using casual steps as recommended Baron and Kenny (1986). The first step involved regressing composite scores of organisational performance on employee engagement. The results are presented in Table 4.14. Step two involved regressing employee engagement on organisational commitment. The relationship was tested using model 3.5 and results presented in Table 4.16

Table 4.16 Regression Results of Employee Engagement and Organisational Commitment

Goodness of Fit		Test Statistics	P-value
Adjusted R squared		0.283	
R squared		0.286	
F-statistics		98.33	0.000*
Regression statistics			
	Coefficient	T-statistic	P-value
Constant		2.02	0.44
Employee engagement	0.54	9.92	0.000*
Key * Significant P-value < 0.05			

Source: Survey Data (2017)

The results presented in Table 4.16 indicate that the adjusted R² is 0.283 implying that employee engagement accounts for 28% of changes in organisational commitment in research and training state corporations in Kenya. The f-statistics is 98.33 with a corresponding p-value of 0.000 (p-value < 0.05) which implies that the relationship between employee engagement and performance of research and training state corporations is significant. The Beta value for employee engagement is 0.54; t-statistic 9.92 and a corresponding p-value = 0.000 (p-value < 0.05). This implies that there is a significant relationship between employee engagement and organisational commitment in research and training state corporations in Kenya. The beta coefficient indicate that holding all things constant, a unit change in employee engagement results in 0.54 unit change in organisational commitment. The model is restated as follows;

$$OC = \beta_0 + 0.54EE + \varepsilon \dots\dots\dots 3.5$$

In the third step, the test was to investigate the relationship between the mediator and the dependent variable. The test results are presented in Table 4.17

Table 4.17 Regression of Organisational Commitment on Organisational Performance

Goodness of Fit	Test Statistics	P-value	
Adjusted R squared	.33		
R squared	.33		
F-statistics	12.80	.000*	
Regression statistics			
	Coefficient	T-statistic	P-value
Constant		3.15	.002
Organisational commitment	.58	11.0	.000*
Key * significant p-value < 0.05			

Source: Survey Data (2017)

The result indicates that 33% of organisational performance is explained by organisational commitment. The adjusted R squared has a value of .33, F-statistic of 12.80 with a corresponding p-value of 0.000 which implies that the relationship between organisational commitment and organisational performance is significant ($p\text{-value} < 0.05$). The beta coefficient for organisational commitment has a value of .58 with a corresponding p-value of .000. This means that a unit increase in organisational commitment would lead to .58 units of increase in organisational performance. The findings are similar to those of Khan *et al* (2010); Dixit and Bhati (2012) who all found that organisational commitment influences organisational performance.

This is restated in model 3.6

$$\mathbf{OP = \beta_0 + .58OC + \varepsilon \dots\dots\dots 3.6}$$

Step four involved introducing organisational commitment as an explanatory variable and regressing employee engagement and organisational commitment on organisational performance to determine whether it has a partial, complete or no influence on the relationship between employee engagement and performance of research and training state corporations in Kenya. This was tested using the regression model 3.6 and presented in Table 4.18.

Table 4.18 Results of Regression of Employee Engagement and Organisational Commitment on Organisational Performance

Goodness of fit		Test statistics	P-value
Adjusted R squared		0.48	
R squared		0.49	
F-statistics		115.22	0.000*
Regression statistics			
	Coefficient	T-statistic	P-value
Constant		3.83	0.000
Employee engagement	0.47	8.59	0.000
Organisational commitment	0.33	5.98	0.000

Source: Survey Data (2017)

The results indicates that the value of adjusted r-squared is 0.48 with a corresponding F-statistic of 115.22 and a p-value of 0.000 (p-value < 0.05). This implies that 48% of changes in the performance of research and training state corporations in Kenya are explained by the combination of employee engagement and organisational commitment.

The Beta value for employee engagement has a score of 0.47 with a corresponding p-value of 0.000 (p-value < 0.05) while that of organisational commitment has a score of 0.33 and a corresponding p-value of 0.000 (p-value < 0.05). This implies that both variables have a significant influence on organisational performance. A unit increase in employee engagement would lead to 0.47 unit increases in levels of performance of research and training state corporations in Kenya. In addition, a unit increase in organisational commitment would lead to 0.33 unit increase in organisational performance. The regression model 3.6 is restated below as follows;

$$OP = \beta_0 + 0.47EE + 0.33OC + \varepsilon \dots\dots\dots 3.7$$

The summary of the results of mediation steps are presented in Table 4.19.

Table 4.19: Summary of Mediation Regressions Results

Regression Model	Results	Remarks
3.2	$\beta_4 = 0.64$; p-value = 0.000	β_4 is significant, p-value<0.05
3.7	$\beta_{18} = 0.47$; p-value = 0.000 $\beta_{19} = 0.33$; p-value = 0.00	β_{17} and β_{18} are both significant, p-value<0.05
3.2	β_4 in model 3.2 is more than β_{18} and β_{19} in 3.6 and all are significant	Partial mediation
3.7		

Source: Regression Results (2017)

Result presented in table 4.19 indicates that β_4 in model 3.2 has a beta coefficient of 0.64, B_{18} and B_{19} in model 3.7 have beta coefficient of 0.47 and 0.33 respectively and that all are significant (p-value < 0.05). β_4 in model 3.2 is more than β_{18} and β_{19} and all the beta coefficients are significant. This implies that organisational commitment has a partial moderating influence on the relationship between employee engagement and performance of research and training state corporations in Kenya. Consequently, the null hypothesis was rejected in favour of the alternate hypothesis.

The relationship between organisational commitment and organisational performance is widely investigated and acknowledged. For instance, Khan *et al.*, (2010); Field and Buitendawach (2011); Dixit and Bhati (2012); Memari, Mahdiah and Marnani (2013); Tolentino (2013); Agyemang and Ofei (2013; and Irefin and Mechanic (2014) all found a positive relationship between organisational commitment and organisational performance. Previous empirical studies on the influence of employee engagement on organisational performance concluded that employee engagement has positive influence

on organisational performance. Right Management (2009); Psychometric Canada Limited (2011); and Dajani (2015) all found positive relationship between the two.

Organisational commitment has been directly linked to job and organisational performance. Dixit and Bhati (2012); Tolentino (2013); and Albdour and Altarawneh (2014) found that employees' job performance and organisational performance are influenced by organisational commitment. In addition, employee engagement has been linked to organisational commitment. Field and Buitendach (2011); Agyemang and Ofei (2013); Wachira (2013); and Albdour and Altarawneh (2014) found strong evidence that employee engagement influence organisational commitment.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the study findings, policy recommendations conclusions, contribution of the study to knowledge and makes suggestions for further research.

5.2 Summary

Performance of state corporations in Kenya is a matter that has occupied the public debate since the 1990s when the government initiated various reforms aimed at improving their performance. The initial reforms involved; divesture, privatisation, staff rationalisation and opening up the functions hitherto performed by state monopolies to competition. However, these initial approaches were found not to work and the government initiated the second and later third round of other policy interventions. These have taken different forms such as placing the chief executives of state corporations on contracts and placing all state agencies under performance contracting.

The report of the presidential task force on parastatal reforms (RoK, 2013) and the Public Service Commission Evaluation Report (2017) indicate that state corporations are still bedevilled by performance challenges and that past efforts produced only temporary positive performance but the momentum could not be maintained possibly because the

root cause of unsatisfactory performance has not been addressed. To move the country to a middle income status as envisioned in Kenya's economic development blue print; Vision 2030, state corporations in training, research, innovation and technology are expected to play a significant role in generating research outputs that could be used to industrialise the county, add value to export products and generate knowledge to inform decision making and in calculate the with new ethos. It is therefore imperative that strategies be put in place to improve their performance and that of the entire sector.

Past studies on performance of the state corporations have paid little attention to the role of employee engagement and hence the focus of the current study. The study specific objectives were to investigate the influence of traits, psychological state and behavioural engagements on performance of research and training state corporations in Kenya. Further, the study sought to investigate the moderating influence of demographic characteristics on the relationship between employee engagement and performance of state corporations in Kenya. In addition, the study sought to investigate the mediating role of organisational commitment on the relationship between employee engagement and performance of research and training state corporations in Kenya.

The study adopted a positivistic orientation and used descriptive and explanatory research designs. Primary data was collected using structured questionnaires from respondent's selected using random sampling. The data collected was analysed using descriptive and inferential statistics. Descriptive statistics summarised the data using aggregate mean and standard deviations. Multiple and hierarchical regressions were used to analyse data and run regression models on hypothesised relationship between variables. The direct

relationship was tested using multiple regressions while step wise regression was used to test moderation and mediation influence.

The first objective of the study was to establish the influence of traits engagement on performance of research and training state corporations in Kenya. The regression test results had a p-value of 0.000 ($p\text{-value} < 0.05$). Hence, the null hypothesis which stated that traits engagement does not influence performance of research and training state corporations in Kenya was rejected in favour of the alternate hypothesis.

Employees with certain traits such as proactive personality, self-esteem and self-efficacy generally have a positive view of life and work. They are able to handle work challenges and conflicts in a positive way. This in turn affects their job performance which leads to positive organisational outcomes and hence improved performance. Employers should therefore ensure that they recruit employees who exhibit certain traits that are related to engagement as this affects the performance of the organisation.

The second objective of the study was to investigate the influence of psychological state engagement on performance of research and training state corporations in Kenya. The regression results had a p-value of 0.000 ($p\text{-value} < 0.05$) and therefore the null hypothesis that psychological state engagement does not affect the performance of research and training state corporations in Kenya was rejected. Psychological state engagement has a significant effect on performance of research and training state corporations in Kenya. A 0.223 unit increase in psychological state engagement was found to lead to a proportionate increase in organisational performance.

The results implies that organisations that value their employees, involve them in decision making, offer job security and allow for job autonomy are more likely to have employees who are absorbed in their work. This reduces work related accidents, leads to higher levels of customer satisfaction and creativity among the employees. This has positive influence on organisational performance. It is therefore imperative for managers to create conducive work environment that creates trust and gives employees latitude in decision making.

The third objective of the study was to assess the influence of behavioural engagement on performance of research and training state corporations in Kenya. The regression results had a p-value of 0.000 (p-value < 0.05). Thus, the null hypothesis was rejected implying that behavioural engagement have significant influence on performance of research and training state corporations in Kenya. Employees who are engaged go an extra mile in achieving the goals of the organisation and this leads to increased organisational performance.

Employees who have the necessary traits to engage and are provided with a conducive work environment are willing to take up extra responsibilities even when this is not in their job description and will often take action without prodding. This enables such employees to have higher levels of job performance which ultimately leads to positive organisational performance. It is therefore important for the public service to ensure that people with the right attitude are recruited, that trust and safety are embedded in their organisational ethos as this would lead to employees going beyond job descriptions in achieving the organisational goals.

The fourth objective was to assess the moderating influence of demographic characteristics (age, level of education and years served in an organisation) on the relationship between employee engagement and performance of research and training state corporations in Kenya. The results of the regression of the interaction of demographic characteristics of age had a p-value of 0.008, tenure had p-value of 0.000 and level of education had a p-value of 0.000 (p-value < 0.05 for all the indicators). Therefore, demographic characteristics have a significant moderating influence on the relationship between employee engagement and organisational performance.

The demographic characteristics of the work force are important in achieving organisational objectives. For instance, employees with high levels of education are likely to be more engaged as they have capacity to grasp the bigger picture thus relate their individual outputs with those of the organisation. Less educated employees may be unable to comprehend abstract concepts; however, due to the scarcity of viable alternatives, such employees will show more commitment to the organisation.

Further, the age of employees moderates the relationship between engagement and organisational performance. Employees of different age sets have different expectations and react to organisational policies differently. Having a diversified workforce in term of age may mitigate any negative attributes related to age. Employers therefore use age to discriminate employees' potential for promotion and or deployment.

Tenure was found to be positively correlated with performance. Employees who have worked for long in the organisation are more likely to have internalised the organisational culture, know what is expected of them and are generally more likely to have developed

mechanism of dealing with unpleasant conditions. It is therefore important for organisations to find mechanisms of reducing staff turnovers. Training a new employee is not only time consuming but also there is always lead time before an employee starts to positively contribute to organisational performance.

The fifth objective of the study was to investigate the mediating influence of organisational commitment on the relationship between employee engagement and performance of research and training state corporations in Kenya. The regression results indicated that the organisational commitment has a partial positive influence on the relationship between employee engagement and organisational performance thus the null hypothesis was rejected. Organisational commitment influences the extent to which engaged employees contribute to furthering the mission of the organisation and hence organisations ought to ensure that their employees are both engaged and committed to the organisation in order to improve overall organisational performance.

5.3 Conclusions

Kenya's economic blue print vision 2030 is based on transforming the country from a developing economy to a middle income status by the year 2030. To realise the vision, the economy is expected to grow at a rate of 10% per annum. Achieving this rate of economic growth requires the state to create an enabling environment. Research and training state corporations are expected to play a major role in this endeavour by generating new ideas, informing policy decision and retraining the public service with new work values and ethics. This has resulted in increased interest in performance of state corporations in research and training.

Previous empirical studies on performance of state corporations in Kenya have scarcely addressed the role of employee engagement and organisational commitment in improving organisational performance even though ample empirical evidence exists from studies conducted elsewhere to support this assertion. However, these studies have mostly focused on the direct relationship between; employee engagement and organisational performance; organisational commitment and organisational performance. However rarely have both variables been used in the same study to link them with organisational performance. Based on this gap, the study sought to investigate the influence of employee engagement on performance of state corporations in research and training in Kenya. On the basis of the findings, the researcher arrived at several conclusions based on the objectives of the study.

The first objective was to investigate the influence of traits engagement on performance of research and training state corporations in Kenya. The study concluded that traits engagement affects organisational performance and hence should be an important consideration in recruitment, promotion and assigning of responsibilities to employees in any organisation.

The second objective of study was to assess the effect of psychological state engagement on performance of research and training state corporations in Kenya. The study found that psychological state engagement positively affects organisational performance. Organisations should provide jobs that are secure while the work environment should be friendly and consultative in order to create conditions for employees to engage with the job and the organisation.

The third objective of the study was to assess the effect of behavioural engagement on performance of research and training state corporations in Kenya. The null hypothesis was rejected implying that there is a positive relationship between the behavioural engagement and organisational performance. Engaged employees will go out of their way in meeting the objectives of the organisation. It is therefore necessary to allow for a level of autonomy to the employees in decision making in order to maximise employees' productivity and customer satisfaction and retention.

The fourth objective was to determine the moderating effect of demographic characteristics (age, tenure and level of education) on the relationship between employee engagement and performance of state corporations in research and training in Kenya. The result indicates that age, tenure and level of education have a significant moderating effect on performance of state corporations in Kenya. Based on these findings, the researcher concludes that a more diversified and educated workforce would have positive influence on performance of state corporations in particular and on the economy in general. In addition, employers should put in place systems that lower staff turnover in order to reap the benefits of long serving employees who understand the organisational ethos thus positively affecting organisational performance.

On the basis of the fifth objective, this study concludes that organisational commitment is a critical ingredient in human resource management as it has a mediating influence on the relationship between employee engagement and organisational performance. Employees who are commitment to an organisation accept its norms and values and are willing to exert extra effort on behalf of the organisation. State corporations and the public sector in general should develop human resource policies that not only promote employee

engagement but also deepen levels of organisational commitment if they hope to improve performance.

5.4 Contribution of the Study to Knowledge

The study sought to investigate the influence of employee engagement on performance of state corporations in research and training in Kenya and how this relationship is moderated by demographic characteristics and mediated by organisational commitment. This was achieved through establishing the direct link between; traits, psychological state and behavioural engagement and organisational performance each individually as well as the joint effect. Further, the study tested the moderation and mediation effect of demographic characteristics and organisational commitment. The study contributes to knowledge in the area of employee engagement and organisational performance in several ways.

Previous studies on influence of employee engagement on organisational performance were mostly conducted in developed countries of Western Europe and the USA with very few studies being based on developing countries especially from the African continent. In addition, current studies on performance of state corporations in Kenya have been conducted in very different context with very scanty empirical investigation based on performance of research and training state corporations and more so, on the effect of employee engagement on their performance. This gap in knowledge has therefore been addressed through this study.

Further, most of the past empirical studies on employee engagement have been conducted in the private sector with very little attention being given to the public sector. This may not be surprising given that most of the previous studies have been conducted mostly in developed economies where the private sector is the biggest employer while the public service employs only a few. However, in Africa in general and in Kenya in particular, the public service is the biggest employer and hence it is vital to investigate the contribution of employee engagement on performance of public entities. The study provides empirical evidence that employee engagement has significant influence on performance of public entities.

The focus of most of the previous empirical studies has been on the direct relationship between the variables of this study: between employee engagement and organisational performance; between employee engagement and organisational commitment; and between organisational commitment and organisational performance. There has been very little effort in studying the influence of the three variables on performance in to the same study. Therefore, through this study, it has been demonstrated that organisational performance would greatly improve if employees are not only engagement but are also committed to the organisation.

The study contributes to the field of employee engagement by developing and testing a robust conceptual framework which link four variables; employee engagement, demographic characteristics, organisational commitment and organisational performance. This model has been found to better account for organisational performance based on employee engagement. Previous models were mostly based on the interplay of two or three of the variables but not all four in the same model.

On a theoretical level, the current study contributes to empirical evidence that supports the resource based theory, stakeholder theory, social exchange, expectancy and work adjustment theories. The study provides empirical support to resource based theory by demonstrating that employees are a critical ingredient in organisational performance and ought to be well managed while also supporting the stakeholder theory that organisational performance is dependent on meeting the needs of the various stakeholders. In this case, performance of state corporations should be assessed on meeting the needs of different stakeholders; employees, the government, customers and the general public. In addition, the study gives support to social exchange theory that mutually beneficial relationship at the work place results in a win-win situation. By providing employees with a challenging, secure and safe work environment, employers reap the benefits of engaged employees which in turn positively influences organisational performance.

The expectancy theory with its focus on performance being based the value that an employee attach to the expected reward and the belief of ability to perform given task get support from the study by demonstrating that organisational commitment mediates the relationship between employee engagement and organisational performance. Performance of employees with traits to engage and who have a supportive work environment and ability to engage is not enough to improve organisational performance. Organisational commitment and the kind of commitment impact the relationship between employee engagement and organisational performance. It is therefore important for organisations to ensure that engaged employees are committed for organisations to reap maximum benefits.

Lastly, the moderation effect supports the work adjustment theory by demonstrating that demographic characteristics moderate the effect of other variables on organisational performance. Employees react differently to organisational policies depending on their demographic profiles. Therefore, employers should take demographic characteristics of their work force in to account while introducing changes in the organisation.

5.5 Policy Recommendations

The study sought to investigate the influence of employee engagement on performance of research and training state corporations in Kenya, the moderating effect of demographic characteristics and the mediating effect of organisational commitment on the relationship. Based on the findings, the researcher makes the following recommendations

In order to improve performance of the public service, policy makers need to pay special attention to institutional arrangements that creates conditions necessary for employee engagement or alternatively address factors that may hinder it. Unlike the private sector, the public service does not enjoy the same level of flexibility in for instance adjusting employees pay and benefits. It is therefore important for public service managers to examine non-cash incentives to improve and create conditions that optimise employees' performance.

The study has demonstrated that personality traits are related to individual job performance and by extension to organisational performance. It is therefore the recommendation of this study that organisations should use robust interview and selection techniques to identify potential candidates who possess traits that would be beneficial to an organisation. Further, organisations should create the necessary conditions for talented

employees to thrive if performance is to be enhanced. This may include designing jobs in a manner that ensure that they are challenging and giving employee's latitude for decision making.

Thirdly, management should pay attention to the demographic characteristics of their workforce. Diversity in the workplace is crucial in service delivery and mitigates the negative effects of some of the demographic traits associated with specific groups. Human resource managers should also develop policies that take in to account the demographic profiles of their workforce.

Lastly, the role of human resource management has never been fully appreciated with very few institutions having human resource practitioners at strategic levels. Most organisations focus most of their attention on cost management, production and marketing functions. Through this study, it has been demonstrated that effective management of human resource is a critical ingredient to the success of the business. Engaged and committed employees could be the difference between an organisation success and failure. Therefore, organisations should consider full integration of human resource management at all levels of the organisation. This could be achieved by equipping line managers with people skills as they are in direct contact with employees and hence should have capacity to inspire, manage and motivate them.

5.6 Recommendations for Further Research

This study like any other is subject to certain limitations. First, the study was cross sectional in nature as opposed to longitudinal analyses. Although a robust design was

used to determine causal relationship between variables, cross sectional data does not achieve the same level of confidence as longitudinal analyses. It is recommended that future studies adopt a longitudinal approach.

The results of the various regression models clearly indicated that the error term accounts for a big variation in performance of state corporations in Kenya. The combined influence of the predictor variables of the study accounts for less than 50% of changes in organisational performance. This implies that there are other variables that play a crucial role in organisational performance. Future studies should include more variables in the model.

Lastly, the study focussed on influence of employee engagement on organisational performance but did not investigate the antecedent of employee engagement. It is recommended that future studies should include the antecedents of employee engagement in order to have a clearer picture of the relationship between employee engagement and organisational performance.

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APPENDICES

Appendix 1: Introduction Letter

TO WHOM IT MAY CONCERN

RE: EMPLOYEE ENGAGEMENT AND PERFORMANCE OF RESEARCH AND TRAINING STATE CORPORATIONS IN KENYA

I am a Doctor of Philosophy (Ph.D) candidate at Kenyatta University, in the School of Business, Department of Business Administration undertaking a research study on the above referenced subject. Through this introduction, I am seeking for your participation in this study. The information you give will be used solely for purpose of the study. The data will be summarised with no identifying features being reported in the thesis and any subsequent publications. Thus, your anonymity is guaranteed. Thanking you in anticipation

Yours faithfully,

Stephen Cheche

Reg. No. D86/CTY/26903/2013

sgcheche@yahoo.co.uk

Appendix 2: Questionnaire

Part 1 Demographic Information

Kindly tick appropriately

1. Gender: Male Female others (specify) -----
2. Age bracket: below 30 years 30-40 41-50 50-60 Over 60
3. Highest level of education: Doctorate ; Master's Degree ; First Degree ; Certificate/Diploma Secondary education Primary education and below
4. Marital status: Married ; Single ; Divorced Separated ; Windowed
5. How long have you been in formal employment?
Below 5 years 6-10 years 11-15 years 16-20 years Over 20 years
6. How long have you worked with your current employer?
Below 5 years 6-10 years 11-15 years 16-20 years above 20 years

Part 2 Employee Engagement

The following statement describes how you feel at work. Please read each of the statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, tick in column "1" in the space after the statement. If you have had this feeling, indicate how often you felt it by ticking in any one of the columns from 2 to 5 that best describes how frequently you feel that way.

(1) Never, (2) Rarely, (3), Often, (4) Very Often, (5) Always

Statement	1	2	3	4	5
At my work, I feel full of energy					
At my job, I feel strong and vigorous					
I can continue working for very long periods at a time					
At my work, I always persevere, even when things do not go well					
At my job, I am very resilient, mentally					
When I get up in the morning, I feel like going to work					
I find the work that I do full of meaning and purpose					
I am enthusiastic about my job					
My job inspires me					
I am proud of the work that I do					

To me, my job is challenging					
Time moves very fast when I am working					
I get carried away when I am working					
When I am working, I forget everything else around me					
I feel happy when I am working intensely					
I am immersed in my work					
It is difficult to detach myself from my job					

Part 3: Organisational Commitment

The following statements represent how you feel about the organisation you work for.

Please tick in the column with the number that best applies to you

1= not at all, 2= to a small extent, 3= to a moderate extent, 4= to a large extent, 5= to a very large extent

	1	2	3	4	5
I am very happy being a member of this organisation					
I really feel as if this organisation's problems were my own					
I do not feel a strong sense of belonging to this organisation					
I do not feel emotionally attached to this organisation					
I do not feel like part of 'the family' in my organisation					
My organisation has a great deal of meaning to me					
It would be very hard to leave this organisation right now even if I wanted to					
My life would be disrupted if I were to leave the organisation now					
I have few options to consider leaving the organisation					
It would be too costly to leave my organisation now					
If I had not already invested too much in this organisation, I would consider working elsewhere					
I feel I owe this organisation quite a bit because of what it has done for me					
This organisation deserves my loyalty because of how it has treated me					
I feel I would be letting my co-workers down if I were to leave the organisation for another					
I am loyal to this organisation because it shares my values					
This organisation has a mission that I believe in and I am committed to					
I feel it is morally correct to dedicate myself to this organisation					

Part 4: Organisational Performance


Tick in the column that best applies to your organisation

1= not at all, 2= to a small extent, 3= to a moderate extent, 4= to a large extent, 5= to a very large extent

Statement	1	2	3	4	5
The organisation mission statement aptly capture what we do					
The organisation often achieves its annual targets					
The organisation supports innovation					
The organisation continuously assess customer satisfaction					
The organisation services and or products are highly rated					
The organisation closely monitors its effectiveness					
The organisation have well established qualitative and quantitative indicators to monitor our effectiveness					
The staff numbers are adequate for the organisation's mission					
The organisation responds promptly to changes in technology and to competitors actions					
The organisation responds promptly to customer complaints					
Services are delivered within set timelines					
Employees attendance is closely monitored					
Employees performance is adequately in monitored					
There are adequate support systems in place to support implementation of our programmes and projects					
The organisation regularly engages its stakeholders					
Major projects are always implemented after consultations with stakeholders					
The organisation's products and or services are regularly reviewed to reflect the changing customer preferences					
There is regular monitoring of customer attitude towards products and services					
Most of the stakeholders think we are on the right track					
The organisation's resources are adequate to meet all its objectives					
The organisation is able to meet its financial obligations when they fall due					
The annual expenses are less than revenues					
The organisation's assets are more than its liabilities					
The organisation is able to fund all its activities from its revenues					

Thank you for taking time to complete this questionnaire.

Appendix 3: NACOSTI Research Approval



**NATIONAL COMMISSION FOR SCIENCE,
TECHNOLOGY AND INNOVATION**

<p>Telephone: +254-20-3213471, 2241349, 3310571, 2219420 Fax: +254-20-318265, 318249 Email: dg@nacosti.go.ke Website: www.nacosti.go.ke when replying please quote</p>	<p>8th Floor, Ushaka House Uhuru Highway P.O. Box 30923-00100 NAIROBI-KENYA</p>
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Ref. No: **NACOSTI/P/16/64622/14628** Date: **22nd November, 2016**

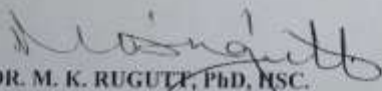
Stephen Gikonyo Cheche
Kenyatta University
P.O. Box 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *“Employee engagement and performance of selected state corporations in Kenya,”* I am pleased to inform you that you have been authorized to undertake research in **all Counties** for the period ending **21st November, 2017.**

You are advised to report to the **Chief Executive Officers of selected State Corporation, the County Commissioners and the County Directors of Education, all Counties** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.



DR. M. K. RUGUTI, PhD, MSc.
DIRECTOR-GENERAL/CEO

Copy to:

The Chief Executive Officers
Selected State Corporation.

The County Commissioners
All Counties.

National Commission for Science, Technology and Innovation | P.O. BOX 30923-00100 NAIROBI

NACOSTI RESEARCH PERMIT

THIS IS TO CERTIFY THAT:

MR. STEPHEN GIKONYO CHECHE
of KENYATTA UNIVERSITY, 3610-200
Nairobi, has been permitted to conduct
research in *All Counties* County

on the topic: **EMPLOYEE ENGAGEMENT
AND PERFORMANCE OF SELECTED
STATE CORPORATIONS IN KENYA**


for the period ending:
21st November, 2017



.....
**Applicant's
Signature**

Permit No : NACOSTI/P/16/64622/14628
Date Of Issue : 22nd November, 2016
Fee Recieved : Ksh 2000




.....
**Director General
National Commission for Science,
Technology & Innovation**

Appendix 4: Sample Request for Permission to Collect Data

Stephen G. Cheche

P. O. Box 3610 00200

Nairobi.

Email: sgcheche@yahoo.co.uk

Tel: 0725329429

Date -----

The Director

Dear Sir,

RE: PERMISSION TO COLLECT RESEARCH DATA

I am a Doctor of Philosophy student at Kenyatta University, in the School of Business; Department of Business Administration undertaking a research study entitled '**Employee engagement and Performance of Research and training state corporations in Kenya**'. The aim of the research is to establish the influence of employee engagement on performance of state corporations. Through this letter, I am seeking for your permission to collect data from your members of staff. I wish to assure you that the information obtained will be used solely for purpose of the study only.

Attached, please find a copy of NACOSTI research permit, research abstract and a sample questionnaire for your consideration.

Thanking you in anticipation.

Yours faithfully,

Stephen G. Cheche

Appendix 5: Sample Data Collection Approval



KENYA MEDICAL RESEARCH INSTITUTE

P.O. Box 54940-00200 NAIROBI - Kenya
 Tel: (254) (020) 2722541, 254 (020) 2713349, 6722-205901, 0733-400003 Fax (254) (020) 2720030
 Email: director@kemri.org info@kemri.org Website: www.kemri.org

KEMRI/RES/7/68 Vol.III (248)

19th December, 2016

Stephen G. Cheche
 P.O. Box 3510 00200
 NAIROBI

Dear Sir,

**RE: PERMISSION TO COLLECT DATA WITHIN KEMRI- EMPLOYEE
 ENGAGEMENT AND PERFORMANCE OF SELECTED STATE CORPORATIONS IN
 KENYA.**

Reference is made to your letter on the above mentioned subject.

This is to inform you that the Institute has granted you permission to collect data for your Doctor of Philosophy degree research study entitled "*Employee engagement and Performance of selected State Corporations in Kenya*".

We note that this is an academic requirement and any information provided will be treated with utmost confidentiality and will be for academic purposes only.

Kindly share with us the research findings.

Yours faithfully,

Ruth Nyambura
For: Ag. Director, KEMRI

Appendix 6: State Corporations in Research and Training in Kenya

Institution	Mandate	Location
Kenya Institute of Public Policy, Research and Analysis	Research in public policy and related advisory services	Nairobi
Kenya Agricultural and Livestock Research Organisation	Research in agriculture, livestock and allied areas	Nairobi with institutes in throughout the country
Kenya Forestry Research Institute	Research in forestry and allied natural resources	Kiambu and Londiani
Kenya Industrial Research and Development Institute	Research in industrial; Civil, mechanical, electrical and chemical engineering; textile, food, ceramic and clay technology; industrial chemistry	Nairobi
Kenya Marine and Fisheries Research Institute	Research in marine and fresh water fisheries	Mombasa
Kenya Medical Research Institute	Human health research	Nairobi, Kisumu and Kilifi
National Research Crime Centre	Research in to causes of crime and its prevention	Nairobi
National Museums of Kenya	Research and dissemination of natural and cultural heritage	Nairobi with regional sites throughout the country
Kenya School of Government	Training, research and consultancy	Nairobi, Mombasa, Embu and Baringo

Source: RoK (2016)

Appendix 7: Variables Eigen Values

Appendix 7(i): Traits Engagement Eigen Values

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	2.489	41.479	41.479	2.489	41.479	41.479	2.278
2	1.016	16.936	58.415	1.016	16.936	58.415	1.716
3	.847	14.118	72.533				
4	.707	11.789	84.322				
5	.520	8.662	92.984				
6	.421	7.016	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Appendix 7(ii): Psychological State Engagement Eigen Values

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.987	59.733	59.733	2.987	59.733	59.733
2	.955	19.091	78.824			
3	.431	8.614	87.438			
4	.371	7.427	94.865			
5	.257	5.135	100.000			

Extraction Method: Principal Component Analysis.

Extraction Method: Principal Component Analysis.

Appendix 7(iii): Behavioural Engagement Eigen Values

Initial Eigenvalues			Extraction Sums of Squared Loadings		
Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
2.507	50.131	50.131	2.507	50.131	50.131
.877	17.540	67.671			
.655	13.093	80.764			
.561	11.216	91.980			
.401	8.020	100.000			

Extraction Method: Principal Component Analysis.

Appendix 7(iv): Organisational Commitment Eigen Values

Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
3.964	33.036	33.036	3.964	33.036	33.036	3.558
2.576	21.467	54.504	2.576	21.467	54.504	3.001
1.360	11.334	65.838	1.360	11.334	65.838	2.479
.757	6.304	72.142				
.593	4.943	77.086				
.520	4.330	81.415				
.476	3.963	85.378				
.438	3.650	89.028				
.384	3.198	92.226				
.353	2.945	95.171				
.328	2.732	97.903				
.252	2.097	100.000				

Extraction Method: Principal Component Analysis.

Appendix 7(v): Organisational Performance Eigen Values

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	11.318	47.157	47.157	11.318	47.157	47.157
2	1.853	7.719	54.876	1.853	7.719	54.876
3	1.111	4.629	59.504	1.111	4.629	59.504
4	1.062	4.425	63.929	1.062	4.425	63.929
5	.928	3.865	67.794			
6	.816	3.400	71.194			
7	.737	3.072	74.266			
8	.668	2.783	77.049			
9	.598	2.490	79.539			
10	.570	2.373	81.912			
11	.502	2.090	84.002			
12	.472	1.966	85.969			
13	.442	1.842	87.811			
14	.399	1.662	89.473			
15	.347	1.445	90.918			
16	.334	1.391	92.309			
17	.309	1.289	93.598			
18	.284	1.184	94.782			
19	.273	1.136	95.918			
20	.240	.998	96.916			
21	.209	.869	97.785			
22	.191	.796	98.581			
23	.186	.776	99.358			
24	.154	.642	100.000			